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Can We Return to Rapid Growth?

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Probably not, for the likelihood of spontaneous market forces favoring private investment is slim. A more promising route for returning to rapid growth in the industrial countries is to rely primarily on a government-led expansion to promote investment — something possible only with an unusual degree of international cooperation.

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The projections for economic growth in the industrial countries during 1985-95 have been revised steadily downward — to a pessimistic 2.5 percent a year. Can this trend be reversed?

The crucial element in achieving high growth rates is a rising rate of investment, itself a reflection of confidence in the economy. The conditions that stimulate higher investment can result from spontaneous market developments or from sharp changes in economic policy.

Chances that the former will occur, while slim, depend on putting in place policies that favor a surge in investment-led growth. These include reducing government deficits and promoting technological innovation and entrepreneurial activities, particularly by small firms. Maintaining low inflation rates and strong demand are equally important. Despite the existence of many of these conditions for some time, growth has slowed even further.

Expansionary government policies may be a more plausible route, although the pace is crucial. Too rapid an advance could propel inflation; a slower strategy could be too diffuse to overcome the present downturn. Opting for bold efforts is probably more promising, although even here policymakers face skepticism that independent government policies can work in today's interdependent global markets.

One possible solution is to strive for international policymaking and to regain some degree of exchange-rate stability. This kind of international coordination could be the impulse for rapid growth, as it was after the Second World War.

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INTRODUCTION

As part of its ongoing work on prospects for the developing economies, the World Bank regularly prepares medium-term forecasts for the growth of the industrial countries. Though these forecasts are limited to only a few key variables such as output, inflation and interest rates, they are a crucial input into the Bank's assessment of the outlook for various developing areas and countries between now and the end of the century. The forecasts are usually presented in the form of variants (e.g. "high" and "low" cases) and use as inputs both projections prepared outside the Bank by other international or national organizations and Bank expertise.

It may be interesting to note that there have been some step downward adjustments in these medium-term growth forecasts through time. Thus, the first projection published for the decade of the 1980s [World Bank, 1979], foresaw an average annual GNP growth for the industrialized countries of 4.2 per cent ("base" case). In the subsequent three annual reports, however, this rate (average of "high" and "low" cases) was put at only 3.2 per cent (the actual rate is unlikely to be above 2.5 per cent). Similarly, the first projection for the years 1985-95 [World Bank, 1983], put forward an annual growth rate of 3.7 per cent. From 1984 onwards, this was revised downwards to 3.4 per cent (again, average of the two variants published). Indeed, work internal to the Bank has, in recent years, tended to use only the lower (or 2.5 per cent per annum) of these two variants. To some extent, this increasing medium-term pessimism may be mirroring the increasing pessimism apparent in short-term forecasts for the industrialized countries. In addition, however, it would seem to also

reflect a more underlying re-assessment of the growth prospects for the world economy on the part of the Bank's economists. While for a number of years after the first oil shock it was still felt that an eventual return to growth rates of the order of those recorded by the OECD area in the 1950s and 1960s was feasible, this feeling now appears to be receding. Be it because of the major financial imbalances that beset the world economy at present, or because of more deep-seated doubts about growth prospects in general, it is being increasingly thought that the world economy may be unable, over the coming decade or two, to return to growth rates much above those that have been witnessed so far in the 1980s.

The present paper looks at the issue of whether an acceleration in economic growth is possible over the medium term (here defined as the time span between the late 1980s and the end of the century). Its aim is not so much that of providing a set of projections, but that of exploring issues and problem areas in the light of both contemporary debates and the evidence that can be gleaned from economic history.

The paper focuses on the industrialized economies. Over the time horizon here considered, it would seem highly unlikely that any other group of countries could take over from the OECD area its role as the "locomotive" for the world economy. Table 1 illustrates the overwhelming weight of the OECD countries in the mid-1980s in both world output and world trade, a weight that has fallen only little over the previous two decades. The table also shows that even on rather extreme assumptions about growth between now and the year 2000 (a further sharp deceleration in the industrialized countries and a marked, and rather unlikely, acceleration in the developing ones), these weights would not change dramatically.

It has often been argued, however, that the real growth pole of the future will shift away from the North Atlantic area, where it has been located for the last two or three centuries, and move towards the increasingly dynamic Asian-Pacific region. While it is no doubt true that a number of countries in that part of the world have displayed impressive growth rates for a prolonged period of time, and that the importance of this area in the world has risen sharply, it may nonetheless be premature to concentrate one's hopes for a revival in economic growth in the world at large on the successes of the Asian-Pacific region alone. More than 75 per cent of the area's output is accounted for by only two countries (Japan and China). Of these, Japan shares some of the problems of other OECD economies and is unlikely to be able to grow rapidly independently of them, while China's development path, even if buoyant, is likely to remain essentially autarchic. As for the very dynamic smaller countries in the area, most of these have so far enjoyed an export-led pattern of growth which has clearly limited their potential for stimulating other economies. Here too, rapid changes in the nature of the growth process seem unlikely. Inclusion of the Pacific regions of North America further enhances the area's weight in world GNP, but not its dynamism - growth over the last twenty years turns out to have been no higher than that of the developing world as a whole.

Even if concentration on the growth prospects of the OECD area limits the geographical scope of the paper, it nonetheless raises a large number of issues. A first problem is the presence, at the outset of the period under examination, of significant financial imbalances in the world economy (e.g. the budget and external deficits of the United States or the debt problems of the developing countries), which may act as constraints

on growth. Looking further ahead, and assuming, optimistically perhaps, that such imbalances will be solved within a reasonable time span, there are contrasting views on longer-run prospects. At one end of the spectrum are those who feel that, be it because of maturity and ageing, or because of resource constraints, or for other reasons, the future can at best deliver only very slow and possibly decelerating growth. At the other end, more optimistic observers have argued that, if only the "right" conditions are restored, be these, for instance, unfettered and deregulated markets or internationally coordinated policies, an acceleration in the growth tempo is well within the means of the industrialized countries.

The present paper cannot fully tackle all of these issues and must by force select some at the expense of others. Section I briefly looks at the medium-term constraints on growth which arise from the present financial disequilibria, and at possible scenarios which may allow at least partial resolution of these imbalances. Assuming (heroically) that some such solution will be forthcoming over the next few years, the rest of the paper then considers whether a resumption of rapid growth thereafter is feasible and likely. Section II surveys a number of views that have been put forward which suggest that the post-1973 slowdown was, for some reason or other, inevitable, so that even a return to a more balanced world will be insufficient to restore higher growth rates. On the assumption, however, that such views are unfounded, or, at least, exaggerated, Section III examines the conditions that have made rapid medium-term growth possible in the past, while Section IV looks at the physical and other constraints on potential growth that could present themselves, should a resumption of higher growth become a policy priority. Section V, finally, briefly considers the future and some implications of the analysis.

I. RESOLUTION OF IMBALANCES

It is well known that the world economy is at present confronted with a number of large financial disequilibria. These are particularly pronounced in the United States for which recent estimates [OECD, 1987a] suggest that the twin current account and Federal budget deficits will, in 1987, be both equivalent to some 3 to 4 per cent of GNP. In addition, the debt situation of the developing countries remains precarious. Despite massive adjustment efforts, debt-service ratios are likely to increase further this year as world trade and many primary product prices remain sluggish [World Bank, 1987]. Nor can much encouragement be derived from short-term prospects. The OECD forecasts only small reductions in the external imbalances of the industrialized countries for 1988, while some projections for the US budget [CBO, 1987] suggest renewed increases in the Federal deficit in 1988 and 1989. As for the developing countries, significant reductions in debt burdens, let alone a resumption of rapid output growth, would seem beyond reach, at least for the time being.

The major problem with these worrying imbalances is that they may not be sustainable over the longer run. Just as the accumulation of debt in the developing world led eventually to a crisis, it is similarly feared that the building up of both domestic and external debt on the part of the United States may, over the medium term, generate a not dissimilar outcome. Against this it can be argued that some adjustment has been forthcoming. The third world's debt problems have not so far ushered in financial breakdown, as had been feared by many, because both policy changes and market reactions forestalled the danger (e.g. in the form of widespread debt restructuring and debt conversions, or via much higher

provisions for losses in the OECD banking system). Similarly, policy changes and market behaviour have, over the last few years, set in motion forces that are now reducing the imbalances in the industrialized countries. Thus, the 40 per cent fall in the effective rate of the dollar against other OECD currencies from its early 1985 peak is beginning to affect trade flows, while the US Federal budget deficit has been sharply cut in the last year both in absolute terms and, even more, relative to GNP.

Though these changes are welcome, their progress is both slow and uncertain. As was seen above, the debt situation of the developing countries may have been stabilized, but remains very fragile, while progress on reducing the US Federal deficit is likely to be interrupted, at least in the short run, if only because of impending electoral deadlines and the timing vagaries of tax reform. OECD external imbalances are expected to diminish in the course of 1988, and probably beyond, but, on present trends and policies, the US current deficit will remain very large for a number of years, thus implying continuing and rapid additions to the country's external indebtedness.

The slowness of these adjustments, in turn, constrains the growth of the world economy. In the United States, the need for a reduction in the Federal budget deficit implies a need for a relatively restrictive fiscal policy over the medium term. At the same time, the sluggishness of the current balance's response to exchange rate changes creates the danger of further falls in the value of the dollar. Be it to prevent these, or to offset the inflationary effects of past depreciations on the domestic economy, monetary policy may also find itself constrained into a restrictive posture. Though growth would, no doubt, be stimulated by the

external sector, it is unlikely that this could fully offset the negative influences coming from tighter policies.

In the rest of the OECD area, on the other hand, the constraint on growth would come from the effects of currency appreciation (and US sluggishness) on net exports and on investment in the tradeable sector. While more expansionary policies could, in theory, offset such deflationary impulses, the likelihood of them being taken is small - on the one hand, many European countries, as well as Japan, feel that public finance consolidation remains a very important objective of economic policy (even in those cases in which budget deficits have been reduced to negligible proportions); on the other, many of the same countries also share a deeply ingrained mercantilist outlook that strongly militates against them accepting sharp deteriorations in their current balances. Resistance to such inevitable deteriorations may well take the form of more restrictive policy stances. Given subdued domestic growth in the OECD area, and hence only slow growth in world trade, continuing weakness in real primary product prices and, possibly, further increases in protectionism, the developing countries are likely to remain heavily constrained by their balance of payments situations, thus further adding to the sluggishness of the world economy.

Indeed, even this scenario of a very slowly growing and adjusting world may not materialize. The continuation over a number of years of large, if diminishing, imbalances may not be tenable and something may "give". The often feared scenario is one in which markets precipitate a collapse of the dollar, inflation accelerates in the United States leading to a sharp response from the monetary authorities and a recession follows [Marris, 1985]. A much lower dollar and much reduced US demand have strong

negative effects on the rest of the OECD area, while lower US demand and, especially, higher US interest rates have similar, or possibly more dramatic, effects on the developing world.

What the foregoing suggests, is that, barring a timely and coordinated, but highly unlikely, policy response by the major countries, growth in the world economy will, at best, be only modest over the next few years. Given the range of uncertainties (including political ones, especially for the United States), putting forward precise forecasts may not be a very rewarding exercise. But some rough idea of the range of possibilities can be gleaned from a number of scenarios for the coming five years put forward by the World Bank. Starting from a "reference" scenario, which basically extrapolates the policy intentions and exchange rate levels of early 1987 (and is thought to be untenable), the World Bank goes on to illustrate the effects of a number of different policy and exchange rate assumptions on crucial variables between 1987 and 1992.

Three of these scenarios are presented in Table 2 - the "reference" scenario, in which exchange rates are frozen at their end-1986 level and the US Federal budget deficit is forecast to decline to \$ 100 bn. by 1992, and two variants which explore the effects of a more restrictive fiscal policy in the United States and a 10 per cent additional depreciation of the dollar (the latter already achieved by end-1987). It will be seen that these more realistic variants generate outcomes that can hardly be considered very favourable. Growth in the OECD area, which had slowed down from a 2.7 per cent annual rate in the years 1973-79 to one of 2.3 per cent per annum in the years 1979-87, slows down even further to roughly 2 per cent on average. It is true that the US General Government records a budget surplus by the end of the period (implying rough balance for the

Federal budget), but the current account remains in substantial, if declining, deficit.

The same might not be true if the alternative assumption was made of a US recession. Growth over the next few years would, clearly, be even more subdued, but it is not inconceivable that at the end of the recession the present disequilibria may have been, if not solved, at least substantially reduced. Recession, in particular, should strengthen the US current account by more than suggested in the scenarios presented in Table 2, even if it led to a smaller improvement in the fiscal position.

Both outcomes contain clear dangers. In the recession case, the main risk is that the situation of the developing countries has so worsened that a new debt crisis erupts. Hopefully, policy makers and markets have learnt the lessons of the previous crisis and will be able to avoid the occurrence of a new one. In the more gradual adjustment scenarios modelled by the World Bank, resolution of the US external imbalance turns out to be such a protracted matter that the world economy could find itself semi-permanently locked into a low growth trap. Arguably, however, this may not be inevitable. In so far as fiscal policy restriction in the United States will have eliminated the Federal deficit by the early 1990s (as the scenarios assume), and further dollar depreciation will have put the US current account on a firmly improving trend (by 1992, in both scenarios, the deficit will represent only 1 1/2 per cent of GNP as against the nearly 3 1/2 per cent expected for 1987), it may be possible to envisage some decrease in the degree of market uncertainty and some return of confidence, from which a move to higher growth rates may then be possible. And a similar return of confidence may follow in the wake of the sharper adjustment path inflicted by recession.

The precise date at which such a turnaround in expectations occurs is not absolutely crucial. What is being assumed is that, some time in the early 1990s, thanks to fiscal stringency in the United States, some further dollar depreciation, and, possibly, recession, there would be a strengthening perception that the worst was now over. In particular, it would be felt that the US budget situation was either under control, or seen to be improving, that external imbalances were much reduced, and/or being slowly unwound (implying the maintenance of medium-term exchange rate stability around the prevailing rates), and that both inflation and interest rate levels were relatively low. It is readily admitted that there may be a good dose of optimism in such a projection. Persistence of large external imbalances and mounting debt levels in some countries may perpetuate unfavourable expectations and restrictive policy stances. A sharp recession, on the other hand, rather than solving some problems could worsen them and/or generate new and even more intractable ones. The assumption here made that neither of these pessimistic outcomes materializes, is adopted solely for expository purposes. The question as to whether a resumption of more rapid growth in the industrialized countries (and in the world at large) is possible can only be posed if some return to a more balanced international economy has first been achieved.

II. IS STAGNATION INEVITABLE?

The Introduction to this paper has argued that the resolution of present financial disequilibria is a necessary condition for a resumption of faster growth. It is, however, far from being a sufficient condition. Even a return to a more balanced world may not be enough to generate an acceleration in growth rates. This would, in particular, be the case if there were some longer-run constraints inhibiting expansion in the industrialized countries. Stagnationist theories, advancing reasons for an eventual permanent or near-permanent economic slowdown, have long been popular. While a full review is clearly beyond the scope of the present exercise, some of the better known approaches will briefly be mentioned in what follows. To order the discussion, a broad, three-group, division will be used:

- i) Theories that see the economy inevitably subject to very long swings, with the present slowdown as part of a downward phase which it will take time to unwind;
- ii) Views that see the inevitable deceleration stemming from purely physical constraints;
- iii) Approaches that stress social changes, and, in particular, the retarding effects of maturity and greater wealth.

Kondratieff Cycles

A view of an inevitable, but not permanent, deceleration in growth is provided by analyses that stress the existence of long-run cycles (of roughly 50 years in duration), which are usually associated with the name of Kondratieff. The past decade or so has seen a revival of literature on such cycles [e.g. Mandel, 1980; Freeman, 1983; Van Duijn, 1983], with many

authors stressing the appearance of a new peak in the early 1970s (similar to those already experienced in, for instance, the 1810s, the 1860s and the 1920s). If this was accepted, the present sluggishness would represent the inevitable downward phase of the cycle and little could be done to either shorten or invert it. On the basis of past historical patterns, recovery would have to wait for, say, the late 1990s or the early years of the next century.

The problem with this fatalistic approach is that neither the empirical regularities of Kondratieff cycles nor the forces generating them have been clearly established. The dates that have usually been chosen to determine past turning points are open to disagreement and rely more on price than on output statistics. As for causes, these have spanned from the influence of sun spots on agricultural production to the effects of military spending and wars on investment and output. One of the more plausible explanations uses the concept of technological waves, but most research in this area has concluded that technological progress is very seldom a discontinuous process and even when major breakthroughs have occurred, these have been insufficient to initiate general booms [Chesnais, 1982].

The whole theory of Kondratieff cycles, in other words, is one of (dubious) regularities of a mechanistic, and largely unexplained, kind. The OECD countries have clearly entered a period of slowdown, but to define this as the downward phase of an inevitable long-run cycle would seem to be, at least, premature. A more fruitful approach is that of recognizing the existence of changes in the growth tempo of the industrialized countries, but of attributing these to specific disturbances rather than to regular rhythmic movements: "Major system

shocks change the momentum of capitalist development at certain points. Sometimes they are more or less accidental in origin; sometimes they occur because some inherently unstable situation can no longer be lived with" [Maddison, 1982, p.83].

Physical Constraints

More radical than a theory of long cycles, in which the possibility of eventual recovery is implicit, are those stagnationist theories which stress the finiteness of physical resources. These have a long history, which goes back to Ricardo and Malthus and their fears that a fixed supply of land, or too rapid a growth of population, would put an end to economic growth. In a somewhat different vein, even Keynes feared that an oversupply of savings would drive the marginal productivity of capital to zero and hence exhaust growth opportunities. The continued and rapid growth of technology has put to rest most of these gloomy forecasts, but their place was, temporarily at least, taken by the forebodings of the Club of Rome on the inevitable exhaustion of certain raw materials. There is an abundant literature on this issue, whose main conclusion would seem to be that, as long as prices are allowed to vary in response to threatened scarcities, such scarcities are unlikely to materialize. Rising relative prices for non-renewable resources are bound to encourage substitution in both consumption and production (as suggested by the course of economic history over the last century and amply confirmed by reactions to the two oil shocks of 1974 and 1979).

A somewhat more sophisticated version of the resource scarcity idea has been formulated with particular reference to the oil market. Be it because of the oligopolistic nature of the industry, and/or because of the

relatively low short-run price elasticities of both demand and supply, any sudden growth spurt could generate sharp price rises of the kind already seen in 1974 and 1979. While, in many ways, this would seem to be a short-run constraint on growth of the kind reviewed in Section IV below, a repetition of such price shocks each time faster growth was attempted, could have destabilizing effects on longer-run trends. Indeed, in the worst of all possible scenarios, the world could be constrained to grow at a rate dictated by (slowly) expanding energy supply, and be, in addition, subject to sharp price fluctuations consequent upon OPEC decisions. Experience since the early 1980s, when such forecasts were most popular, suggests, however, that, just as for other raw materials, the idea of an "oil ceiling" permanently restricting growth would seem to be unrealistic. Though the oil market has been subject to regular cycles and can be expected to remain so [Petroleum Finance Company, 1987], shocks of the strength experienced in the recent past are unlikely.

While not strictly concerned with physical scarcities, a different stagnationist approach has stressed the idea that limits to growth may be coming from the progressive exhaustion of what have been the main engines of expansion in the past. The gist of the argument is that growth this century was concentrated in areas of manufacturing that generated particularly pronounced economies of scale, as well as strong forward and backward linkage effects. Given the saturation of demand for many of these goods, the scope for further scale economies may now have been virtually exhausted in the OECD area. More importantly, it would also be argued that none of the new products that have been discovered in the last 10 or 15 years have the potential for stimulating growth in other parts of the economy as did, for instance, the major durables of this century. While it

is undoubtedly true that many of the industries that fuelled post-war growth had powerful effects on other sectors, cars being, perhaps, the best example, earlier technological advances had similar impacts (witness the effects of railways or of electricity), and much recent evidence suggests that the breakthroughs in electronics and in information technology are having just as pronounced, if not even more dramatic, consequences on employment and on activity.

Finally, and much more realistically, the view has been expressed that a deceleration in growth was inevitable, at least in Western Europe and Japan, as these areas gradually exhausted the possibility of catching-up on America's technological lead. As productivity levels have converged, productivity growth in the OECD area as a whole has become increasingly dependent on the slow outward movement of the technological frontier, rather than on easy and quick progress within the frontier itself. Such a view has its limitations, since it cannot account for US slowdown (unless the United States itself was benefiting from some catch-up on the depression of the 1930s [Baumol, 1986]). More importantly, it can hardly explain both the steadiness of growth until 1973 and the suddenness of the decelerations that occurred after 1973 and 1979. Yet, the theory is plausible as an explanation of longer-run trends and is backed by a certain amount of empirical evidence [Marris, 1982]. Before fully accepting its implication that the 1950s and 1960s were, for Western Europe and Japan, unique, non-repeatable, experiences, it should, however, be remembered that other forces may exist, or emerge, that could allow a resurgence of rapid growth. Thus, the technological frontier could be expected to move rapidly since the stock of human capital is larger, and R&D and investment ratios are higher, than they were in the 1950s and

1960s. In addition, the frontier is no longer being expanded solely in the United States, but in a large number of countries and in particular in Japan. Indeed, as the latter country increasingly shares with the United States the role of technological leader, the pace of advance could well accelerate.

Maturity and Ageing

A third category of stagnationist theses, stresses instead not so much physical but social constraints on growth, and, in particular, the debilitating effects over the longer run of prolonged periods of rapidly rising material wealth and prosperity. One, very simple, version of such approaches focuses on the idea of the eventual saturation of needs in the developed market economies. At its crudest, the theory suggests that, as economies get richer, their inhabitants no longer desire more goods and services with the same intensity as in the past, thus increasingly substituting leisure for work, with inevitable consequences for the growth of both investment and output. Few economists, however, would take such an approach very seriously. Quite apart from overlooking the power of technology in devising new and attractive products, the idea ignores the well known strength of demonstration effects in consumption as well as the importance of relative rather than of absolute income in determining spending patterns. It also forgets that: "Even in the richest countries, a large part of the population is still far below saturation levels, and poverty in an absolute sense has not yet disappeared" [Bombach, 1985, p.6].

A much more sophisticated approach to longer run stagnation comes from the Schumpeterian vision of the gradual, but inevitable,

transformation of modern capitalist societies [Schumpeter, 1952]. Continuing growth brings with it an inescapable centralization of economic activities, in the wake of rising cartellization on the one hand and the requirements of scale economies on the other. And centralization is accompanied by the emergence of huge and ossified bureaucratic concerns run by conservative managers increasingly resistant to change while the mythical figure of the "entrepreneur" slowly disappears. Yet, it is the latter who is at the heart of economic growth thanks to his risk-taking and innovating activities. In other words, the successes of the early stage of capitalism eventually undermine the economic foundations of the system itself and create the conditions for its downfall, a view both similar and different to that of Marx.

That much economic activity has been increasingly concentrated over the last century is undoubted, as is the rise of large (private and public) bureaucracies. Yet socialism has not become the dominant form of society in Western countries (though social democracy probably has in Europe), and growth, at least until recently, has not decelerated. Indeed, Schumpeter's gloomy forebodings on the inevitability of decline may turn out to have been exaggerated on more than one count. Recent technological progress and, in particular, the spreading of electronics, robots and flexible manufacturing systems, may well provide new scope for small scale production and hence revive the figure of the "entrepreneur" (as, in many ways, suggested by the 1970s and 1980s successes of small-scale firms in many countries, and especially in two of the most dynamic economies in the OECD area - Japan and Italy).

An alternative view of inevitable decline, which is more firmly rooted in historical evidence, is Olson's thesis of gradual institutional

sclerosis taking hold of stable and prosperous societies [Olson, 1982]. A characteristic of such societies is the spreading and strengthening of what Olson calls "distributional coalitions", in other words organizations, such as professional associations, cartels, trade unions, etc., whose main aim is that of pursuing the interests of their own members at the expense of those of society as a whole. The longer the period of stability during which these groups have strengthened their position, the greater their retarding effects on growth. Conversely, periods of upheaval, for instance wars, foreign invasions or revolutions, tend to sweep away such special interest organizations and recreate conditions of greater openness and competition during which the energies of society are again devoted to wealth creation rather than solely to its distribution. The inevitability of slowdown arises from the obvious realization that wars and revolutions, at least in advanced Western countries, are hardly realistic policy options to restore growth, while even a return to complete free trade and a total absence of impediments to firm or factor mobility may, in Olson's view, not be sufficient to outweigh the negative influence of the ubiquitous cartels and lobbies.

The weight of historical material assembled by Olson to document his thesis is impressive and, no doubt, a correlation can be found between social upheavals of one sort or another and growth accelerations, in some countries at least. But, whereas defeat in 1945 may well have spurred growth in France, Germany, Italy or Japan, similar defeats and changes in political regimes had much less of a perceptible effect in the American South after the Civil War, in France in the 1870s, or in Austria in the 1920s. And, in the opposite direction, periods of increased cartellization, protectionism and government interference in the economy,

which Olson would consider as clearly inimical to growth, were associated with an improved growth performance in, for instance, Germany in the two decades before World War I [Fremdling, 1986], or in Japan in the 1930s [Nakamura, 1983]. In other words, while Olson may well have shown the importance of one particular phenomenon, his messianic concentration on it, at the expense of all the other conditions facilitating or allowing growth, makes his theory less than all-encompassing.

What all the views so far surveyed have in common, is the general idea that prosperity, success, stability, for one reason or another, generate negative feedbacks on growth, in ways reminiscent of biological life-cycles. Rather than success breeding further success, a view that received a good deal of support from the experience of many countries in the 1950s and 1960s, the argument is that successful, but ageing, societies build up, not necessarily inevitable but likely, tendencies to slow down the pace of innovation, investment and economic progress. The reasons for this may be varied - clinging to vested interests, the temporary pursuit of non-material aims, the increased bureaucratization of economic life, or the Marxist view that since in full-employment conditions dismissals "cease to play their role as a disciplinary measure" [Kalecki, 1971, p.140], rates of profit and investment are reduced.

Within the OECD area, and particularly within Europe, a symptom of such a malaise could well be the massive post-war expansion of the welfare state. Usually, this is seen as an obstacle to growth via its negative effects on investment through financial crowding-out, or on effort because of high taxation and social security benefits. Yet, rather than via these mechanisms whose direction and empirical magnitudes remain open to much controversy, a more subtle growth-reducing channel may have been at work.

The increases in income maintenance expenditure, the mounting provision of a variety of merit goods, the strengthening of employment guarantees, may well transmute a desire on the part of society for a greater degree of economic security. Indeed, in a pessimistic version of this view, prosperity may well diminish people's willingness to take risks and, at the same time, increase their expectations of future prosperity, as witnessed by the spread of what have been called "conflicting claims" [McCracken et al., 1977]. There may be a grain of truth in such views of the effects of "maturity" and "age", but these effects need not be inevitable either. For one thing: "The Welfare State ... constitutes a mode of conflict resolution and a means of mitigating the costs of change that would otherwise induce resistance to growth" [Abramovitz, 1986, p.404]. For another, rejuvenation is possible, not least if protracted sluggishness, or outright stagnation, are seen to be the only alternatives.

Conclusions

It has been characteristic of previous periods of slowdown that they generated a gloomy literature on future growth prospects (as well as on the imminent collapse of capitalism). This was the case at the time of the so-called "Great Depression" of the 1870s, and was even more so in the 1930s. Subsequent accelerations in the growth tempo at the turn of the 19th century, or in the 1950s and 1960s, put to rest many of the stagnationist theories of the time. Arguably, the same may turn out to be true in this instance. A cautionary note, however, is in order. There may, after all, be something in the general thesis that continued stability and prosperity may have slowed down the pace of economic change, just as

prolonged full employment may have reduced the rate of profit. A greater quest for security and a lower propensity to engage in risky activities may be hallmarks of modern industrial societies that may temporarily reduce growth. Yet, that reduction may, in itself, recreate some of the conditions necessary for a renewed upswing.

III. THE CONDITIONS FOR GROWTH

The preceding section has suggested that low growth rates of the kind experienced since the first oil shock are not necessarily inevitable. But neither is a return to higher growth rates. Such a return would require a set of favourable conditions which may not be easily forthcoming. It is the aim of this section to explore what such conditions might be in the light of previous experiences of rapid growth in the industrialized countries. After a brief survey of some of the major theoretical views of what determines the growth process, the text looks at selected episodes of the economic history of the last century or so, and, in particular, at the reasons for the remarkable acceleration in growth recorded after World War II.

The Supply Potential

The standard, textbook, presentation of economic growth is based on the neo-classical paradigm. In this view of the world, the major determinants of growth are exogenous rates of population growth and technological progress and a given investment ratio. The production function then determines a "natural" rate of growth of the economy. Changes in the investment ratio may affect this growth rate temporarily, but, in the long run, they are offset by changes in capital-output ratios. Potential growth thus proceeds smoothly along a given path, even if actual growth may deviate from it temporarily because of business cycle fluctuations.

This view of the world would seem unable, however, to provide a convincing explanation for the "convulsive structural, technological, and social changes" [Nordhaus and Tobin, 1972, p.2] which have characterized

the past development of the industrialized countries: "General economic growth as we have known it is not a balanced, steady-state affair; ... the historical process of growth ... may best be viewed as part of a sequence of technologically induced traverses, disequilibrium transitions between successive growth paths" [Abramovitz and David, 1973, p.429]. There would, indeed, seem to be little "natural" about the sudden changes in trend growth rates that the world has experienced over the last two hundred years, such as the long waves of acceleration and deceleration in the 19th century, let alone the sharp breaks in trend witnessed after 1945 or 1973.

The major difficulty with neo-classical growth theory is probably the idea of an exogenously given "potential" growth rate. This assumes explicitly that the three main arguments in the production function (capital, labour and technology) are independent of the growth process itself. Yet, there is strong evidence for the existence of mutual causation, in which case high growth rates could well have favourable influences on the supplies of factor inputs, while low growth rates might act in the opposite direction. Such interdependence is most easily seen in the case of capital. Though there are, no doubt, several important factors that determine the rate of private investment at any particular time, both theoretical arguments and empirical evidence strongly suggest that expected demand growth is a major one. If the accelerator matters, then growth affects capital accumulation just as much as capital accumulation affects growth.

Technological progress, on the other hand, could be autonomous if one were to accept a "science-based" view of innovation, with new products and processes generated primarily by the advance of scientific knowledge. Yet, this view seems more applicable to the earlier days of industrialization

when major technological breakthroughs may well have generated upward shifts in investment, than to modern times. Nowadays, research is predominantly carried out in the industrial laboratories of large firms, rather than by individual inventors, and the economic impact of innovations is often less important than are the effects of gradual improvements in processes made subsequent to the innovation's initial application [Enos, 1962]. Indeed, the opposite, demand-induced view, which sees "necessity as the mother of invention" [Gould, 1972], would seem to be backed by stronger evidence. The endogenous nature of much technical progress is suggested by the close links between innovations in a number of industries and those industries' prior growth in sales and investment [Schmookler, 1966]. More generally: "A considerable number of scholars of technological advance have well documented the role of strong demand for a particular product in stimulating innovative efforts to improve it or improve its production processes, the effects of shortages ... for a particular input in stimulating innovation to save on the use of that input, and of high expectations for a potential market ... in stimulating exploratory work to find a satisfactory design or production process" [Nelson, 1981, p.168].

An endogenous view of population growth would seem to be more difficult to defend. Labour force and employment growth, however, respond to changes in aggregate demand, as shown by increases (or decreases) in participation rates through the cycle and in migration flows through longer phases of acceleration and deceleration. More importantly, if productivity levels across sectors differ, changes in aggregate demand can lead to changes in the labour force's sectoral disposition and thereby contribute to changes in overall growth rates.

"Engines" of Growth

The foregoing suggests that the concept of an exogenous "natural" rate of growth may not be a very useful tool for an examination of why growth rates change through time. An alternative approach that may provide better insights might be one that stressed some particular crucial factor that could be described as the "engine" of growth. In a short-run Keynesian framework, this could be represented by an exogenous demand component, e.g. investment, exports, or government expenditure. In an interpretation of longer-run classical theory, the crucial factor would be capital accumulation [Streissler, 1980]. Finally, in a Schumpeterian view of the world, the spur to growth would come from the bunching of technical innovations leading to an upsurge in entrepreneurial activity and investment.

The element common to all three approaches, as also to the Marxist view of expansion and crisis, is investment. There are a number of reasons for why investment may be viewed as a particularly important component of growth. First, investment creates both new supply, via its effects on capacity, and extra demand, via the multiplier. Second, investment is the essential vehicle for the embodiment of technological progress. Third, investment can have favourable effects on disembodied technological progress as well - it is frequently only thanks to the introduction of new equipment that factory floors or offices are redesigned, that organizational improvements are made, that X-inefficiency is diminished. Fourth, it is almost exclusively through investment that scale economies can be achieved. Finally, a good deal of "learning by doing" takes place in the wake of higher investment flows.

The stress here put on investment might seem to suggest a dangerously monocausal theory of growth. In particular, it might give the impression that technological progress, which many would consider "the ultimate constraint on the rate of growth of national income" [Lewis, 1978, p.155], was being ignored. Yet this is not so. As argued above, technology and investment are closely linked through the demand impact of high investment onto the pace of innovation itself and via embodiment effects: "Without gross investment, improving technology ... simply represents a potential for higher productivity: to realise this potential requires gross investment" [Salter, 1966, p.63]. Hence, stressing the role of investment is tantamount to stressing also the role of technology. Moreover, investment is measurable, while technological progress is not, and, partly as a consequence, can be more easily influenced by government policies. It is true, of course, that not all investment will always be productive, be this because of lack of complementary factors, or because of mistaken entrepreneurial or government decisions, but such a conclusion can apply to any input, including innovation, and does not, per se, suffice to invalidate the longer-run growth-promoting effects of capital accumulation.

More importantly, the present approach would seem to run counter both to neo-classical theory and to many of the findings of growth accounting exercises. The clash with neo-classical theory, however, may be more apparent than real. Even if that body of theory were right in postulating the invariance of the growth rate with respect to the investment ratio, this result would only pertain to the very long run and still leave open the possibility that shifts from one growth path to another are determined by changes in the rate of capital accumulation. More damning may be the

evidence gleaned from growth accounting exercises which, in their quantification of the sources of growth, often attribute a small role to capital. Thus, Denison, in his well-known international investigations, "explains" only 18 per cent of Western Europe's growth from 1950 to 1962 through capital formation, and, even more surprisingly, limits the contribution of investment in Japan's case to barely 24 per cent for the years 1953-71 [Denison, 1967; Denison and Chung, 1976]. More recent estimates, however, suggest somewhat larger contributions from capital to growth - for the years 1950-73, these lie between 32 and 50 per cent, depending on the country, with much higher figures for earlier and later periods [Maddison, 1987].

Not too much should be read into these various results, given the well-known limitations of the growth accounting methodology, particularly as applied to capital [Scott, 1976], and its inability to incorporate dynamic interactions. Better evidence can be obtained from economic historians who have frequently pointed to the leading role of investment in the growth process: "The evidence ... does not suggest close correlation between rates of growth and levels of capital formation between countries. It is generally true, however, that within any one country increases in the proportion of resources devoted to capital formation tended to be correlated with increases in growth rates" [Milward and Saul, 1977, p.519, emphasis added]. And this summary judgment is broadly confirmed by most, if not all, the careful studies of individual countries' experience, contained in the Cambridge Economic History of Europe [Mathias and Postan, 1978] or by separate monographs [Fuà, 1965; Matthews, 1968; Ohkawa and Rosovsky, 1973; Glismann et al., 1978; Minami, 1986].

If investment is indeed the main proximate engine of growth, the next question is to try and determine what are its moving forces. One view would be to attribute its strength at particular times to changes in saving propensities. The difficulty with this approach is, of course, that causation can run in both directions. Thus, increases in saving propensities could be the reason for high investment, just as rising investment, by boosting income, could generate high savings. If savings were the truly exogenous variable, one might expect, in the presence of international capital mobility, that domestic saving and investment ratios would not necessarily be correlated. Thus, countries which, because of demographic, social or other reasons, had high saving propensities, would normally export capital to countries in which investment tended to outstrip domestic savings. Yet, research has shown that over the last forty years most developed countries' gross fixed capital formation has been closely correlated with domestic savings, while current account balances have acted as merely "temporary shock absorbers" [Penati and Dooley, 1984, p.22]. This finding provides no conclusive proof of the primacy of investment, since the correlation may still be compatible with causation running from rising domestic savings, through a falling cost of capital, to a greater incentive for domestic investment, but it does make the Keynesian hypothesis somewhat more plausible.

Further indirect evidence suggesting that savings may be the dependent variable can be obtained from the work of economic historians. Lewis, for instance, puts the case forcefully when he argues that for industrial countries: "The savings ratio ... depends endogenously on the rate of growth: it is low when the growth rate is low, as in contemporary USA, and high when the growth rate is high, as in contemporary Japan"

[Lewis, 1982, p.105]. Broad confirmation of this proposition is contained in all three of the published histories of long-term growth in industrialized countries launched by Abramovitz and Kuznets [Carre et al., 1972; Ohkawa and Rosovsky, 1973; Matthews et al., 1982]. The conclusions reached for Japan are particularly striking: "Savings are ... an essentially dependent process whose key determinants are the rate of growth and the level of income" [Ohkawa and Rosovsky, 1973, p.172]. Admittedly, however, the American case is less clear-cut. Some authors suggest that neither the secular rise in 19th century savings, nor the secular fall in 20th century savings were autonomous [Abramovitz and David, 1973], but others have argued that in the 19th century, at least, it was savings that led investment [Davis and Gallman, 1978].

An alternative, and possibly more fruitful, approach would look at standard theories of investment determination. At the risk of gross simplification, two major and conflicting perspectives stand out. The neo-classical view would stress the importance of profits, the Keynesian view the importance of demand. Yet, the differences between these two approaches are not unsurmountable. First, the empirical evidence strongly suggests that profits and demand are, for good reasons, closely correlated with each other. And second, both approaches would, presumably, agree that what matters are not so much actual profits or demand (even if it is these that are almost always used in econometric applications), but expected profits or demand. In other words, the major force determining investment may be the presence of optimistic expectations about the future course of either profits and/or activity.

Much more difficult is to answer the question as to what determines such optimistic expectations. In a Schumpeterian interpretation, these

would be generated by the disruptive effects of a new wave of innovations and the entrepreneurial response to this: "Entrepreneurial supply activities rather than demand mechanics (are the) driving forces in economic development" [Giersch, 1979, p.630]. Even if the empirical evidence for the presence of discontinuous jumps in innovations is not particularly strong, the Schumpeterian approach can be modified and fitted into a framework in which it is still primarily supply forces that allow investment growth. Technological breakthroughs are now only one condition for dynamic entrepreneurial activity; others are an abundant supply of factors complementary to investment, the absence of institutional constraints and rigidities, low interest rates or real wages, and a flexible price system [ibid.].

In contrast, a more Keynesian-oriented interpretation, while not ignoring the permissive role of favourable supply conditions, would stress the importance of a high and stable pressure of demand, achieved thanks to either buoyant world markets or, possibly, the role of domestic policies: "Sufficient demand is the main determinant of optimistic expectations, and this is a necessary though not sufficient precondition for growth" [Bombach, 1985, p.70], or again: "It is more or less self-evident that a sufficiently high and stable demand pressure is a necessary condition for a high rate of growth" [Lundberg, 1981, p.452].

This may not be the end of the list. Expectations are an elusive concept and similarly elusive are the reasons for the appearance or disappearance of Keynesian "animal spirits" or of dynamic Schumpeterian entrepreneurs. Many would stress the further need for an orderly international monetary system. Others would also suggest that investment is unlikely to be undertaken in conditions in which corporate indebtedness

is very high, as indirectly shown by the favourable effects on confidence of the destruction of financial debt that occurred in many countries during and after World War II [Abramovitz, 1979]. Further conditions strengthening favourable expectations could be technological breakthroughs, such as the railways in the middle of the 19th century; the presence of cheap labour (as in the United States in the late 19th century), or in Europe in the post-war period [Kindleberger, 1967]); the invigorating impact of free trade (as in Germany with the creation of the Zollverein in the 1830s [Henderson, 1975]), or of (limited) protectionism (as in the cases of France, Germany or the United States at the beginning of this century [Arrow, 1986]), etc.

To test for the significance of these various factors may be a virtually impossible task, if only because the counterfactuals in most instances cannot be constructed. Instead, the following paragraphs will briefly examine some selected periods of the economic history of the industrialized countries and, in particular, episodes of acceleration or relatively rapid growth to try to see, in a rough and qualitative way, what made these possible. The emphasis is on phases of some two decades or more in duration, rather than on shorter-term business cycle upswings, since the subject matter of this paper is the medium-term outlook. The emphasis is also on the experience of all the industrialized countries together, since for individual countries rapid growth may always have been possible thanks to an export-led mechanism.

Table 3 and Figures 1 to 3 present a picture of the growth of what is now the OECD area for just over one century. Excluding periods of war and reconstruction (i.e. the years 1913-22 and 1937-52), the data suggest that there was really only one major phase of very rapid expansion in the

industrialized world as a whole: 1952-73. The Victorian era, the interwar years and the post-oil shock period witnessed growth rates that were, on average, a good deal lower (and quite close to each other). There is some evidence, however, of a modest acceleration in the growth tempo towards the end of the 19th century (which would almost certainly be stronger if GNP data were available for Russia), and a much more restricted data base suggests that a similar acceleration may also have occurred in the early 1850s and lasted until the early 1870s, at least in some of the major European economies, if not in North America (Table 4).

Nineteenth Century Experience

By the standards of the 20th century, output growth in the Victorian era appears to have been very smooth indeed. Though rapid growth phases can be gleaned from the data, and have often been discussed in the literature on Kondratieff cycles, there are hardly any momentous medium-term accelerations comparable to what was witnessed after World War II. Hence, any lessons that can be drawn from this period may be of limited value only. This is the more so, of course, as the structure of the late 19th century economy (and, a fortiori, that of the mid-19th century economy) was very different from that of a today's typical OECD country.

In general, economic histories of this period have focussed on individual countries' experiences and/or on the pattern of cyclical fluctuations. Surveys or explanations of what determined accelerations for the world economy as a whole are less frequent. Two major, and conflicting, interpretations have been put forward by monetarist and marxist economists. For the former, of whom a major proponent was Cassel, the gold discoveries of the early 1850s and of the early 1890s, played a

very important role, in a monetary system that was still closely geared to gold, in generating upward pressures on both prices and output. For the latter, the favourable stimulus to business expectations came, instead, from more political shocks - wars, throughout the period, colonial expansion from the 1880s, increased military spending from the turn of the century [Mandel, 1980].

The available quantitative evidence lends little support to either interpretation. The ratio of the world's gold stock to international trade fell steadily throughout the 19th century, even if at times of new discoveries this movement slowed down [Bairoch, 1976]. More importantly, research on the 1850s suggests little causal link between expansion and gold discoveries [Rostow, 1980], while work on the three decades to World War I shows that the relationship between the quantity of gold and the money supply in both Britain and the United States was highly unstable [Lewis, 1978]. As for the role of expansion overseas, it would seem that the rise in the share of European exports to what would today be called the third world was far too small, even in the years 1890-1913, to provide more than a very minor contribution to growth [Bairoch, 1976]: "For the economic growth of the core, the periphery was peripheral" [O'Brien, 1982, p.18]. Wars and rising military spending may have been more important in stimulating growth in some instances, but the lively debate on the economic effects of the American Civil War confirms that conclusions on this issue are far from easy.

An alternative set of explanations can be sought in the foreign trade area. Thus, it could be argued that the spread of free trade in the 1850s and 1860s stimulated growth, or, alternatively, that the generalization of protection in Continental Europe and in the United States from the 1880s

to World War I had a similar effect. The former thesis has few adherents, if only because the 1870s, during which free trade was still prevalent, were a period of somewhat lower growth. Indeed, it has even been suggested that the most free trading country of all, Britain, actually suffered real income losses from its decision to reduce tariffs [McCloskey, 1980]. The latter interpretation, on the other hand, has had more support, guarded (at best) in the case of the United States [Engerman, 1971; Williamson, 1974], but very explicit in the case of Europe [Bairoch, 1976]. Here too, however, it must be remembered that European protectionism begins already in the early 1880s and is mainly directed at rescuing agriculture, while the acceleration in (industrial) growth comes only in the early to mid-1890s.

No final conclusion is possible, despite the existence of very firmly, indeed dogmatically, held views on this issue. The connections between growth and foreign trade are not only complex, but also likely to vary according to time and place: "Increased exports, decreased exports, increased imports (perhaps through lower tariffs), decreased imports (perhaps through higher tariffs), all or any can either stimulate growth or slow it down ... Not every kick in the pants galvanizes; some merely hurt" [Kindleberger, 1978, p.410, emphasis added].

A more eclectic explanation for the accelerations of the mid- and late 19th century, would probably start by stressing normal cyclical recoveries from the recessions of the late 1840s and 1880s which were then strengthened and lengthened by some special factors. In the earlier period, an extremely important and very buoyant component of investment was railway construction, often, but not always, undertaken with government help; in the latter period, there was no similar leading

sector, but innovations (e.g. in steel, chemicals and electricity) may have played some role in stimulating capital formation [Van Duijn, 1983], as may the accelerated fall in freight rates [Bairoch, 1976]. To these technological factors can perhaps be added the effects of the gold discoveries and of protectionism. More importantly, military expenditures, particularly in the first decade of the 20th century, seem to have had a marked growth-promoting effect.

A further interpretation relates to the major actors of the growth process. Investment in the 1850s and 1860s, though influenced by government policies in some countries, was still overwhelmingly undertaken by what one could call Schumpeterian entrepreneurs. By the turn of the century, however, the role of government in stimulating investment had increased, be this directly through nationalized industries and military demand, or indirectly via protectionism extended to domestic industry [Supple, 1973]. This was least the case in Britain and the United States (though protectionism in the latter country was widespread), and most obviously so in latecomer countries, such as Russia and Japan, but it was also apparent elsewhere in Continental Europe. Differences with the earlier period were only moderate, so that it would be exaggerated to talk of a "regime change", but if one were to look for a "system shock" that could throw light on the late 19th century acceleration, one might wish to focus on the increased role of what today would be called industrial policies.

1952-1973

By far the most exceptional growth phase the Western world has ever experienced (if one excludes the rather special circumstances of the

reconstruction years after World War II), was the so-called "golden age" of the 1950s and 1960s. During the two decades to the watershed set by the first oil shock, output growth was close to 5 per cent per annum, cyclical fluctuations were extremely mild by the standards of earlier periods and unemployment virtually disappeared in most OECD countries. A further notable feature of these years was the sharp rise in capital accumulation. Pre-1950 investment data are poor, but the available estimates suggest that the non-residential investment to GNP ratio was some 75 per cent higher in Europe in the years 1950-70 than in the interwar period [Maddison, 1976], whose ratios were, in turn, equal to, or higher than, those of the years to 1913 [Kuznets, 1966]. The same is true for Japan [Ohkawa and Shinohara, 1979] (but not for the United States for which both growth rates and investment ratios were highest in the 19th century).

While a number of authors have looked at the reasons for the relatively pronounced differences in performance across countries in this period [Kaldor, 1966; Denison, 1967; Kindleberger, 1967], few have studied the more general issue of overall acceleration. Some of the explanations that have been put forward stress the favourable impact, at least for Europe and Japan, of cheap labour and cheap technology [Maddison, 1964; Kindleberger, 1967; Cornwall, 1977]. The abundance of underemployed labour resources in agriculture or in countries of emigration, on the one hand, and the presence of a large technological gap vis-a-vis the United States, on the other, did, in this view, concur in boosting profit expectations, profits themselves and ultimately investment.

Such an explanation would seem eminently plausible. It is well known that the 1950s and 1960s witnessed a massive influx of labour into industry from agriculture and, in North-Western Europe, also from other

countries, and it is highly likely that this labour force was relatively cheap and flexible. Equally, it is well known that Europe and Japan borrowed technology from the United States on a very large scale, as shown, directly, by the latter country's large balance of payments surplus on patent and royalties account, and the direct investment activities of its multinationals, and as suggested, indirectly, by the transformation of European and Japanese industry towards what many would call a US production model.

The explanation, however, has a serious limitation since it is unable to discriminate between circumstances in this period and in earlier periods of the economic histories of Europe and Japan. Thus, surplus agricultural labour was present in even greater quantities during the 19th century and in the first half of the 20th century, as shown by the very high proportions of the labour force employed on the land at the time. Similarly, migration flows were possible, and indeed occurred on a large scale at the turn of the century from Europe to North America. Yet, despite the presence of cheap labour supplies, neither Europe nor Japan were able to achieve the growth rates that were recorded in the period under examination.

More surprisingly, perhaps, the same argument can also be applied to the technology-based explanation. It is undoubtedly true that, after World War II, the United States' technological lead was overwhelming. But a technological gap vis-a-vis the United States had also existed well before 1945, even if its size may not have been quite as pronounced as it was then, as shown by Table 5 which presents data on GDP per man-hour taken as a rough proxy for technological achievement. Though these very aggregate findings are clearly tentative, they are confirmed by more careful

microeconomic research which suggests that, depending on industry and country, US firms were from 1 1/2 to 4 times more productive than similar European firms already at the beginning of the 20th century [Taussig, 1924]. It is true that in the post-war period the awareness of this gap in knowledge and the facilities for the dissemination of technology were almost certainly greater than at earlier stages [Abramovitz, 1979], but it remains nonetheless true that a large gap did exist before World War II and was unable, even combined with abundant and cheap labour, to generate the "super growth" of the 1950s and 1960s.

The search for an explanation thus has to look for factors that were either not present in earlier periods, or, if present, were able to act more powerfully on this occasion. One such factor may have been the influence of the post-World War II reconstruction years on subsequent attitudes and expectations. Growth during this period was extremely rapid in Continental Europe and in Japan (of the order of 8 1/2 per cent per annum between 1946 and 1952), in marked contrast, for instance, to the relatively sluggish performance that followed World War I. Such a tempo, by itself, may have generated optimistic expectations. In addition, the reconstruction years saw the coming to power of new elites in a number of countries [Olson, 1982] and, more importantly, the adoption of new policies. While after World War I, the major economic aim of governments had been that of restoring the conditions that had prevailed until 1913, such a backward-looking attitude was, for obvious reasons, out of the question after 1945. Instead, policy makers embarked on reconstruction in a new and more interventionist framework, exemplified by the ambitious targets put forward by the first French plan.

A second important difference, at least with the interwar period, is to be found in the international economy. While the 1920s and 1930s had been characterized by mounting protectionism, massive speculative capital flows, and floating exchange rates, the system created at Bretton Woods and strengthened by the farsighted American decisions to extend Marshall aid and cancel the bulk of war debts, ushered in a period of unprecedented trade liberalization and almost unprecedented exchange rate stability. Both of these may well have buoyed up expectations and growth, despite Keynes' original fear that the Bretton Woods system contained an implicit deflationary bias.

That fear arose probably from the earlier experience of fixed exchange rates under the gold standard of the years 1875 to 1913, a period in which British growth, in particular, had been relatively low. But quite apart from other changes in circumstances, one major difference between these two eras lay in the role and strength of the reserve currency country. Unlike Britain, with its relatively small gold reserves, the United States could afford to be unconcerned with its balance of payments for a prolonged period of time. Ultimately, this "benign neglect" led to the downfall of the Bretton Woods system, but, while it lasted, it meant that Europe and Japan could grow rapidly without being forced to curtail their expansion by the appearance of external constraints. On the contrary, their reserves went on increasing thanks to US balance of payment deficits, while their growth was being pulled up by US demand. In other words, both areas benefited, in many ways, from the kind of conditions that favour an export-led growth process [Beckerman, 1962].

Thirdly, and perhaps most importantly, the post-war period was characterized by a further and more novel regime change - the explicit or

implicit commitment by a large number of governments to the maintenance of full employment and/or the achievement of rapid growth. At one level, these commitments elicited direct and indirect intervention in capital formation in both infrastructure and basic industries. The Schumpeterian entrepreneurs of the 1950s "operated in and through government" [Abramovitz, 1979, p.25]. But the commitments may well have had an even more important and subtler effect. The war years had given governments much higher levels of taxation and a much greater array of instruments with which to intervene in the economy. The Keynesian revolution had provided the same governments with a new theory which showed that counter-cyclical policies could avoid the recurrence of those business fluctuations which, until then, had been thought of as inevitable accompaniments of a market economy. Arguably, therefore, the commitment looked credible, thus boosting entrepreneurial expectations and contributing to the high rates of investment that were recorded. As long as private agents believed in the implicit Keynesian model that dominated most economic policy discussions of the period, and also believed in the efficacy of policies, their behaviour would incorporate such expectations and turn out to be stabilizing in its own right [Bailey, 1978; Boltho, 1982].

This interpretation cannot hold, of course, equally for all countries. In some, for instance the United States, Britain, or Scandinavia, the Keynesian message was received much earlier and more favourably than in others, for instance Germany or Italy. But even in these countries (and even more so in France or Japan), governments were more active than before, if not always in attempting to manage demand, then in trying to stimulate faster growth and, in particular, higher

investment: "The mixed economy itself, run on Keynesian economic principles, generated dynamic growth" [Van der Wee, 1986, p.54].

And this view is able to throw light not only on the reasons for acceleration, but also on why the deceleration that followed the first oil shock has been so long and pronounced. Governments failed to control recession; indeed, some were even instrumental in initiating or deepening it. Partly in consequence, the confidence that had sustained investment was replaced by much greater uncertainty and pervasive pessimism. The earlier attitudes and the subsequent shift are well described by a Swiss economist: "Right or wrong, economists, politicians and businessmen were convinced that demand management is possible, that we are able to avoid slumps and to make full use of the growth potential. This belief was decisive and produced a climate of optimism. Everyone thought in terms of long term development and no one was greatly moved by short term unpleasant events. This has changed fundamentally inbetween. There is now deep pessimism as regards active economic policy, and long run thinking and planning has increasingly disappeared" [Bombach, 1985, p.72].

Conclusions

Important for any assessment of future prospects is the issue as to whether past phases of rapid growth were initiated by some spontaneous development in the private economy, or were sparked off by shocks to the system and, in particular, by shocks coming from changes in economic policies. A very summary view of the historical experience could be that: "Most of the economic growth in the nineteenth century occurred in the form of autonomous developments, whereas in the present century increasing reliance is placed upon patterns of (government) induced development" [Hoselitz, 1955, p. 423].

The evidence presented above supports such a view only in part. Britain's industrial revolution was undoubtedly a spontaneous occurrence, and so was, probably, the acceleration in growth recorded in Europe in the 1850s, though government intervention was already present at the time, notably in France and Prussia. Similarly, much of America's growth in the 19th century seems the result of market forces, with the role of the Civil War, tariffs and other policies usually deemed to have been only modest [North, 1974]. But, if attention is shifted to the late 19th century acceleration in Western Europe, Russia and Japan, the role of exogenous forces seems much greater - accidents such as gold discoveries, wars and new technologies play some role; government intervention in the form of rising military expenditures, encouragement to investment in key sectors and tariffs are at least equally, or more, important.

The role of policies would seem to have been even more crucial after World War II. Permissive supply conditions were, of course, very important (labour, in particular, was abundant and labour markets were flexible), but such permissive supply conditions had been forthcoming in earlier periods as well. What was different on this occasion were the conditions favouring the realization of the potential for growth [Abramovitz, 1979] and, in particular, the new international and domestic policy arrangements. In many ways, the years of Bretton Woods and of the Keynesian consensus represented a "regime change" for the OECD countries of a kind not witnessed in the previous century. And such a regime change was bound to alter the earlier expectations and behaviour of both firms and households and, in particular, their reactions to the new set of government policies.

IV. BOTTLENECKS

The historical survey of Section III has looked at a number of conditions that have facilitated high growth rates in the past. Some of these cannot be repeated (e.g. the stimulating influence coming from reconstruction after war). Others, however, could materialize in the future, such as a return of more favourable entrepreneurial expectations consequent on lower union power, greater flexibility, etc. Others still, such as higher levels of demand, could be achieved via new policy initiatives. But even if more favourable conditions were forthcoming, specific problems could still imperil the return to faster growth. In particular, a sudden acceleration, whether generated by policy changes or spontaneous forces, may, in the short run, encounter some obstacles and bottlenecks. Rapid growth, once set in motion, may well be able to remove many of these constraints, but it is precisely their prior existence that could frustrate the achievement of the required growth rates.

A number of physical bottlenecks have often been suggested. Most of these are usually raised in the context of a policy-led recovery, but some would also face a more spontaneous, supply-induced, upsurge. First and foremost, is the possibility that, despite high levels of unemployment, at least in Europe, other impediments may make a quick reabsorption of surplus labour very difficult. Alternatively, it is possible that, because of low investment levels for more than a decade, capacity may now (and a fortiori in the early 1990s), be insufficient to sustain an upward spurt in demand. Similarly, the supply of some primary commodity may be highly inelastic. Finally, it could be held that even if no physical shortages were to impede a resumption of more rapid growth, financial constraints might have a similar deterring effect.

Labour

There has been an abundant literature on the (European) unemployment problem since the mid-1970s which it is impossible to survey here in any detail [Reichlin, 1987]. Assuming, plausibly, that the phenomenon does not reflect a protracted voluntary shift away from work and towards leisure, the issues that are important from the growth point of view can best be discussed under the following headings:

- i) Does growth in employment require prior falls in real wages or an expansion in aggregate demand ?
- ii) Would an expansion in aggregate demand risk generating an acceleration in inflation ?

The debate on the first issue has often been conducted in terms of the textbook distinction of "classical" versus "Keynesian" unemployment. The classical interpretation would argue that real wage resistance to the twin shocks of the 1970s (a pronounced and long-lasting deceleration in the growth of productivity and two sharp deteriorations in the terms of trade) led not only to rapid capital-labour substitution, but also to an unsustainable squeeze on profits and a reduction in investment such that the capital stock is now insufficient to fully employ the available labour force. The solution to both the unemployment and the growth problems is clearly that of reducing real wages (or, better, the real cost of labour to firms, which includes tax wedge items which have also increased rapidly in many countries). By restoring profitability, this would lead to an upsurge of investment and hence to both faster growth and lower unemployment.

In the Keynesian interpretation, high unemployment is blamed instead on the restrictive fiscal and monetary policies followed by most OECD

countries since 1974 and, especially, since 1980. Even when it is admitted that profits are too low, the classical remedy of cutting real wages is thought to be counter-productive for a number of reasons. First, estimates of the long-run elasticity of labour demand with respect to the real wage suggest values below unity [Bean et al., 1986; Hamermesh, 1986] thus raising the possibility that a fall in aggregate demand would more than offset any favourable effect of higher profits on investment. Second, this danger would be increased if the improvement in international competitiveness achieved thanks to falling real wages were to be pursued by all countries simultaneously, as has to some extent been the case in the recent past (by the same token rising real wages could hardly have had much impact on unemployment through this channel of transmission in the 1970s if all countries were experiencing them simultaneously). Third, a restoration of profits can be achieved much more easily via a demand-induced stimulus and its well known favourable cyclical effects on productivity.

The empirical evidence on what has caused high unemployment is mixed, if only because it is at times very difficult to identify what forces are at work. Overall, however, if a consensus there is, this would be that through the late 1970s real wages had indeed risen at an unsustainable rate [Sachs, 1979], but that in the 1980s the nature of the problem has changed. Since profitability has been restored to levels close to, or even above, those recorded in the early 1970s, and the growth of real wages has decelerated, the continuing rise in unemployment can only be explained by the even greater tightness of policies [Sachs, 1983; Bruno, 1986].

If this is the case, a return to lower unemployment, higher investment, and faster growth could be achieved by a demand boost,

something that, in any case, it would seem easier to engineer than a fall in real wages. Indirect evidence on the efficacy of such a strategy can be gleaned from historical parallels drawn from the depression of the 1930s [Bonnell, 1981; Sachs, 1983]. For four out of the five countries for which detailed data are available (Britain, Germany, Japan and Sweden, the fifth being the United States), real wage costs grew in the years 1929-32, despite the severity of the recession, suggesting, prima facie, that labour was "pricing itself out of jobs" (Table 6). Yet, the demand boosts that these countries received from 1932-33 onwards, thanks to depreciation in Britain, rearmament in Germany, and expansionary fiscal policies in Japan and Sweden, rapidly eliminated the real wage gap, as nominal wage growth remained sluggish and productivity was boosted by recovery. In all four countries employment rose and growth accelerated.

Historical parallels must be treated with caution because of obvious changes in circumstances. In particular, it is possible that the length of the recent recession may have diminished the potential cyclical boost to productivity should firms have dishoarded labour to a greater extent than in earlier downward phases of the cycle [Sachs, 1983]. Similarly, it may be more difficult in present circumstances to ensure real wage falls akin to those recorded in the 1930s, if only because of greater unionization and stronger real wage resistance. On the other hand, "growing out of the problem" need not imply falling real wages, but only rises in real wages below those of productivity, combined, ideally, with nominal wage moderation.

It is the potential difficulty of ensuring the latter that raises a different danger - the possibility that, despite very high levels of unemployment, any demand boost may raise the rate of inflation. Available

estimates of "non-accelerating inflation rates of unemployment" (NAIRUs) suggest that these have drifted upwards in the 1980s, closely mirroring actual rates of unemployment [Reichlin, 1987]. If such estimates are to be believed, a non-inflationary recovery may be problematic (unless it were accompanied by some form or other of incomes policy).

While a consensus on the reasons for the rise in European NAIRUs has not yet been achieved, much of the recent literature tends to stress the concept of "hysteresis" or persistence, in other words, the idea that present unemployment levels may be closely linked to past unemployment levels [Blanchard and Summers, 1986]. In its simplest form, this approach assumes that wage bargaining is determined entirely by so-called "insiders", who set their claims at a rate just sufficient to ensure their continued employment. "Outsiders", i.e. the unemployed, have no effect whatsoever on the wage bargaining process. If unemployment rises, because of adverse shocks, some insiders lose their status, but the new and smaller group of insiders pursues its earlier policy. As for companies, these may have little incentive to hire outside their labour force at lower wages, if they can obtain greater loyalty, a better productivity performance, or a lower incidence of strikes by granting pay levels above those which would have been determined by more atomistic market forces.

In this view, high unemployment just feeds on itself, and any upward shift in its level is self-perpetuating. The converse, however, should also be true, in which case the solution to the problem would seem to be that proposed by Solow: "To bring down unemployment, just have low unemployment for a while" [Solow, 1986, p.533]. Indeed, "enfranchising" additional workers may actually reduce wage demands if it raises the number of insiders [Blanchard and Summers, 1986]. The appropriate policy

reponse in these circumstances would seem to be one that combined demand stimulation and measures designed to raise labour mobility so as to increase job opportunities to outsiders [OECD, 1987b].

While this may seem to reinforce the case for a demand-led upswing, a note of caution is, nonetheless, required. The initial impact of an increase in demand may not translate itself in an increase in employment, particularly if labour hoarding is still widespread. While, as mentioned above, the presence of such labour hoarding would help the cyclical recovery in productivity and profits, it would do little to reduce the power of insiders and this, in turn, could generate inflationary pressures. These would be further increased if, in addition, particular skills were in short supply, as is often claimed to be the case, or the labour market was riddled with a whole host of rigidities (low mobility, inflexible wage differentials, job security provisions, etc.).

It is difficult to know how far these fears are justified. Many of the rigidities that are often cited stem more from the recession itself than from other causes and may well diminish, if not disappear, if recovery occurred. Thus, the much publicized decline in labour mobility, for instance, may well reflect, rather than be a cause of, declines in the demand for labour [Flanagan, 1987]. It also appears that relative wages are less important as an allocative mechanism than commonly thought, with job allocation being primarily sensitive to vacancies rather than to pay differentials [Reichlin, 1987]. As for job security, this does raise labour costs and therefore reduces employment, but it also increases the flexibility of internal labour markets (as seen in the case of Japan). Skill shortages may be more real, at least in some countries, but are unlikely to have become more pronounced than earlier.

At a more aggregate level, recent examples of accelerations in demand induced by macroeconomic policies (e.g. the 1978 Bonn Summit experiment in internationally coordinated expansion, the 1981-82 Mitterand dash for growth, or the 1986-87 British and Japanese fiscal boosts), may provide some impressionistic evidence on the risks of re-igniting inflation through standard Keynesian mechanisms. The usual verdict on the Bonn measures is that their effects were mainly on prices rather than on quantities, particularly in the two major expanding economies (Germany and Japan). But this judgement ignores the potential inflationary effects which, during the same period, were coming from massive Bundesbank and Bank of Japan interventions to prop up the dollar and, even more importantly, the clear upward shift given to prices and inflationary expectations by the second oil shock. Indeed, the acceleration in consumer prices recorded by both Germany and Japan between 1978 and 1980, gives way to stability or deceleration if attention is shifted to domestically-generated inflation, as represented by the GDP deflator (Table 7).

The inflationary effects of a demand boost may have been more apparent in the case of France in the early 1980s. To some extent, the persistence of high rates of inflation at a time at which inflation was decelerating elsewhere, may have been caused by special measures raising labour costs, and by financial market expectations of rapid price increases leading to currency depreciation and a vindication of the expectation itself. However, it has also been argued that France's NAIRU was a good deal higher than thought so that demand expansion may have had a direct inflationary impact [Sachs and Wyplosz, 1986]. In Britain, by contrast, several years of rapid growth have not led to any marked acceleration in wage pressures. It is true that fears of a return to high

rates of inflation have been expressed in the course of 1987, in the wake of more expansionary fiscal policies. So far, however, these fears have not materialized, despite falling levels of unemployment. The same seems to be true of Japan, where the 1987 fiscal package appears, so far, to have had its main impact on quantities rather than on prices.

A very impressionistic conclusion to this discussion would probably be that neither physical constraints in labour markets nor too high a level of real wages are at present very serious obstacles to the growth of the OECD area. Most of the unemployment in Europe would seem to be involuntary, many of the rigidities that are claimed to exist have either diminished because of recession (e.g. trade union strength), or may be expected to diminish in intensity if demand recovered (e.g. low labour mobility), while the level of real wages, even if too high in the later 1970s, no longer appears too high at present. This is indirectly supported by the results of an end-1985 EEC survey on labour market flexibility which showed that the most important reason preventing an increase in industrial employment in Europe was lack of demand (with excessive wage levels coming only sixth, and insufficient capacity last, among the ten factors surveyed) [Commission of the European Communities, 1986].

The upward drift in NAIRUs, however, suggests that caution may have to be used if demand were to be stimulated. Though the NAIRUs themselves could be expected to decline in the wake of faster growth, initial problems on the wage front cannot be excluded. To avoid or minimize such problems, it may be necessary to target demand expansion to particular high-unemployment categories of workers [Layard, 1986] and/or to introduce forms of incomes policies.

Capital

An alternative constraint to expansion could, however, come from the capital side in so far as capacity may be insufficient at present. Be it because of the excessive real wage levels of the late 1970s, or because of sluggish demand so far in the 1980s, investment has been very low for the last 15 years. Since low investment appears, in addition, to have been accompanied by accelerated scrapping consequent upon either more rapid technological progress and/or sharper shifts in relative prices and demand patterns, the OECD economies may have been left with insufficient capacity for anything but present sluggish growth rates. For an individual country this may not be a very severe constraint, given the possibility of importing capital equipment to remedy such shortages (though the problem would then manifest itself in either a worsening balance of payments or in higher inflation via currency depreciation). If, on the other hand, the expansion was generalized to the whole OECD area, the external problem would virtually disappear, but the inflationary danger would remain.

The evidence on whether capacity is, or is not, available is by necessity imperfect. The existing estimates of capacity utilization in the major countries (Table 8), suggest that, in mid-1987, utilization was still below what it had been at the time of the 1979-80 peak (let alone in 1973), but well above the levels recorded in the trough of 1982-83, despite the weakness of the intervening recovery.

This picture could be more worrying should the slow growth rate of investment of recent years have also been accompanied by a deceleration in the growth of technological progress. This may sound surprising. Journalistic observations on the variety of new technologies and products, as well as theories which argue that recessions eradicate inefficiencies

and create new waves of innovating activity [Van Dujin, 1983], would combine in suggesting that the opposite should be the case - the capital stock at present may be small, but it should embody all the latest technologies. Yet, as also argued in Section III above, a good deal of empirical evidence suggests exactly the opposite conclusion. Process innovations are stimulated by very high rates of capacity utilization; conversely, prolonged slack has strong innovation-detering consequences [Nelson, 1981].

If both capacity is in short supply and technological progress has slowed down, a sharp and generalized recovery in demand could well encounter selected bottlenecks and generate upward inflationary pressures. This danger, however, should not be exaggerated. First, the available evidence applies only to the manufacturing sector of the economy which accounts for less than 40 (or, in the United States, less than 30) per cent of value added. Output in the service sector can often be increased with little need for additional capital. Second, overtime and shift-work can overcome some capacity shortages. Third, the lack of capacity may well be overstated by entrepreneurial responses: "One can be pretty sure that a considerable proportion of the capital stock not now in use and becoming ripe for scrapping would again come into use with an acceleration of demand" [Bombach, 1985, pp.22-23]. Indirect evidence supporting this statement comes from estimates of (gross) ICORs for the pre- and post-oil shock periods - between 1961-73 and 1973-85, the ICOR of the OECD area nearly doubled, suggesting the creation of a good deal of spare capacity. Finally, even if all these arguments were to be discounted, it should be remembered that strong inflationary pressures have usually

started in commodity or in labour markets, rather than in the product markets for industrial goods [Marris, 1985].

The relative unimportance of capacity shortfalls would seem to receive some indirect confirmation from historical experience. Thus, for the United States: "A scrutiny of the 1930's depression does not reveal any sharp and prolonged effects on the rate of growth of potential output. While the level of the growth path clearly was lowered, after economic recovery the slope of the growth path was not less than it was before" [Nelson, 1981, p.169]. Nor does evidence from the reconstruction period that followed on World War II suggest that capital shortages were a significant impediment to growth. In the United States, the conversion of industry from war-related to civilian production took place very smoothly, despite widespread expectations to the contrary. In Europe and Japan, bottlenecks, especially in energy and transportation were, of course, numerous, yet, they were overcome surprisingly quickly [Armstrong et al., 1984]. Finally, in the 1950s and 1960s, very rapid demand expansion hardly ever generated more than creeping inflation, even though many economies were running as close to full capacity utilization levels as they had ever been. Investment ratios just rose as demand grew and supply responded with astonishing flexibility.

Circumstances, of course, are never the same - the 1930s may not be comparable, if only because the present slowdown has been more protracted, the differences between the situation in the late 1940s and now are too obvious to need stressing, and even the 1950s and 1960s belong to a different era, in view of the change in the climate of expectations. But one general lesson seems valid. Over the cycle, at least, accelerator mechanisms appear to be powerful and periods of demand upswing have

usually led to increases in investment. Once recovery has started, in other words, the capacity shortage problem may be self-correcting. The difficulty may arise in the short run when investment has not yet reacted and added to capacity, while physical bottlenecks are boosting prices. As argued above, this danger may be exaggerated, the more so if cost-plus pricing is widely followed, as it seems to be, in manufacturing industry. To minimize the inflationary risk it may, nonetheless, be desirable to set speed limits on the amount of demand stimulus and to make the latter as "supply friendly" as possible [Blanchard et al., 1985; Modigliani et al., 1986].

Commodities

The three major, double-digit, inflationary episodes of the last 40 years were all triggered off by commodity price explosions, in turn induced, at least on two occasions, by very rapid and synchronized expansions of demand. Arguably, a repetition of such expansions could generate a repetition of such price explosions, with predictable consequences for the stance of policies and the rate of growth of output in the major consumer countries.

This danger would seem to be least acute for food products. At present, the OECD area is, if anything, swamped by food surpluses. And even if reforms in farm policies in the EEC, the United States and Japan were to lead to greater rationality in agricultural markets in the industrialized economies, changing policies (and technological progress) in the developing world seem to have been increasingly successful in turning erstwhile food importers into self-sufficient or even net exporting countries. The world, of course, is never safe from crop fluctuations for tropical beverages or from some major disaster, such as

the concomitant failures of wheat harvests in the Soviet Union, Australia and China in 1972 [McCracken et al., 1977], but this would not seem to be a sufficient argument for ever refraining from more rapid growth.

The longer-run price outlook for industrial raw materials may not be that dissimilar. To the traditional arguments for "commodity price pessimism" (declining proportion of goods output, substitution with artificial products, better inventory management, etc. [Nurkse, 1959]), can be added the effects of more recent technological progress which has both accelerated substitution effects (via, for instance, the development of new materials such as fine ceramics) and diminished the raw material intensity of many new products. In the past, such trends would have led to a shrinkage of supply, as low prices fed back onto mine and plantation closures. Nowadays, however, this effect is somewhat less apparent, at least in the developing world, as countries try to maintain foreign currency earnings at all costs, so as to service debt obligations. This is, of course, unlikely to be a permanent phenomenon, but it may be sufficiently lasting for it not to endanger a sudden upsurge in activity.

The situation for oil may well be different. Unlike markets for other commodities, the oil market has never been really free and prices in it have been heavily influenced by governments and cartel-like arrangements. As was mentioned in Section II above, it is the danger of continued behaviour of this kind, combined with long lags in both supply and demand responses to changing prices, that may set a ceiling to the growth rate of the OECD area. At present, such dangers are heavily discounted and the weakness of oil prices is happily extrapolated into the future. This however, is not a new phenomenon - most forecasts of oil prices have tended to extrapolate short-run trends. A recent study, commissioned by

the World Bank, comes to different conclusions [Petroleum Finance Company, 1987]. It finds, first, that the real oil price has been surprisingly stable in a long run (one hundred years) perspective (with behaviour in 1973-82 as the only major exception to this general rule), and, second, that this same price has been subject to well defined cyclical fluctuations (of which, again, the more recent price changes have been a somewhat extreme manifestation) (Fig. 4). The study also predicts, on the basis of a battery of leading indicators, that the industry's cycle will turn from contraction to expansion some time in the first half of the 1990s, but, unfortunately, provides no explicit price forecast (nor projections of the implicit growth of world output or of the demand for energy).

If, indeed, real oil prices were to begin to rise rapidly in the early 1990s, this could spell danger for any recovery in the industrialized countries. Before accepting such a gloomy conclusion, however, it would seem desirable to test more rigorously the cyclical regularity predicted in this one study, as well as establish more clearly the extent of any upward pressure on prices that could materialize at the time, either exogenously or as a result of an acceleration in the growth of demand in the OECD area.

Financial Constraints

Crucial to any short run expansion path, be this spontaneous or policy-induced, is the rate of growth of investment. A possible constraint on an increase in this rate could be a shortage of savings. If, for some reason or other, saving propensities in the OECD economies had come down, then any attempt at stimulus going beyond the new and lower saving capacities of the industrialized countries as a whole would result in

either sharply higher interest rates or in inflation. The major issue, already touched upon in Section III above, is one of causation. Does a given, and fairly rigid, level of savings determine the corresponding level of investment, or are savings largely determined by income and, therefore, investment itself?

In line with the conclusions reached on long-run trends, it is the latter proposition which would seem to be more plausible for the short run as well. It is well known that investment exhibits fairly marked cyclical fluctuations. These are usually well explained by both theory and econometric evidence as arising from changes in aggregate demand, interest rates or other factors affecting the user cost of capital. Savings in the economy would clearly seem to be able to adapt to such changes. Indirectly, this would also seem to be confirmed by more recent trends in both Europe and Japan. Though government dissavings have declined since the early 1980s and corporate profitability has improved, at least in Europe, investment has remained very sluggish.

The major exception to this general trend is provided by recent US experience. While earlier rapid upswings in investment (e.g. between 1962 and 1965, 1970 and 1973, or even 1975 and 1978), were wholly, or largely, met by rising domestic savings, in the 1982-85 recovery the domestic savings ratio did not increase and massive recourse had to be made to foreign savings. Dollar depreciation and fiscal restraint should both reduce the need for external sources of funds over the medium term. Yet, the disappointing performance of savings so far in the 1980s raises the possibility that the United States may now be suffering from a structural savings deficiency of a kind not seen elsewhere among major OECD countries. If this were the case, an acceleration in the growth of

investment (necessary to improve the economy's disappointing productivity record), might well call forth renewed capital inflows.

It is difficult to know whether the rest of the OECD area's savings could cope with an increase in investment demand both at home and in the United States. A very simple calculation may, however, throw some light on the issue. If one were to assume that US gross savings were to remain at their 1985 ratio to GNP (16.5 per cent) but that the OECD's fixed investment to GNP ratio were to return from its 1985 (20.3 per cent) level to its 1973 (23.2 per cent) peak, then non-US OECD savings would have to increase from their 1985 value of 23.3 per cent of GNP to 27.5 per cent - or still below the 28.3 per cent figure they had reached in 1973 (assuming, of course, no changes in stockbuilding or in the external balance). The shift, in other words, might be feasible even if far from easy to achieve - the more so as it would again lead to a large current account deficit in the United States.

So far, many of the constraints that have been discussed apply equally strongly to any recovery in activity, whether this is led by policy or stimulated by market forces. A policy-induced upswing, however, that relied on fiscal measures to generate higher demand, may encounter additional problems of a crowding-out nature which would not be faced by a spontaneous recovery. If crowding-out was significant, pump-priming would obviously be, at best, powerless and, at worst, counter-productive.

The empirical evidence, on balance, indicates that fiscal policy multipliers are not as high as standard Keynesian assumptions might have led one to expect. These multipliers, however, are not negligible either, even in conditions in which bond financing drives up interest rates [Chan-Lee and Kato, 1984]. If inflation is low, a significant dose of monetary

financing may, in any case, be perfectly appropriate. Alternatively, if bond financing was still preferred, coordinated international expansion should be able to prevent many of the unfavourable consequences on activity associated with exchange rate crowding-out.

Conclusions

The foregoing has suggested that many of the fears about capacity and other constraints nipping in the bud any recovery in activity, but in particular a policy-led recovery, may well have been exaggerated. Not all such fears, however, are unfounded. High or rising NAIRUs, possible shortages of capacity in some areas (and of savings in the United States), as well as the incognita of the oil market may all generate inflationary pressures which could, in turn, stifle the recovery process. Two further issues, not treated in detail so far, complicate the picture: the nature of the time path during the period in which the world's financial imbalances are being slowly resolved, and the speed at which recovery thereafter takes place.

The implicit assumption made in Section I above was that growth for a number of years would have to be slow, as the major OECD countries re-established some order in their public finance and/or external payments positions. Such a slow growth path would inevitably have important consequences for a number of the constraints discussed in this section. On the one hand, the adjustment period could have some favourable effects strengthening the probability of an autonomous recovery. Thus, slow growth would be likely to further erode trade union power. Similarly, continuation of present policies of deregulation could increase market flexibility more generally. And the macroeconomic policies that are expected to be pursued should further reduce government deficits with,

arguably, favourable effects on private sector expectations. On the other hand, however, continued sluggishness would presumably add not only to actual unemployment, but also to the NAIRU, via the hysteresis mechanism discussed above. Since investment growth may also turn out to be modest, with inevitable consequences for the growth of capacity, the economy could appear, at the end of the adjustment period, even more supply-constrained than it is now.

This, in turn, suggests that any expansion from then onwards should be only moderate. A sudden sharp acceleration in growth rates could create temporary excess demand problems in labour, product, commodity and possibly even in capital markets, with serious risks for inflation. Yet, too slow a pick up may not put in motion the indispensable accelerator mechanism for investment, may not generate the higher tax revenues that would seem necessary to moderate budget deficits (on the assumption that fiscal policy had played a leading role in the expansion), and, most importantly of all, may not create an upsurge of confidence which would seem to be the sine qua non condition for a more permanent return to higher growth rates. The compromise solution to this speed limit problem is, of course, the one of engineering a recovery which is neither too rapid for inflation to accelerate, nor too slow for growth to falter, with policies, in addition, geared as much as possible to the supply side. The enunciation of this list of requirements is sufficient to show the great difficulties of successfully following such a strategy.

Ultimately, however, it may be better to err on the side of rashness rather than of caution. Unless there are shocks to expectations, there may be a tendency for things to continue unchanged. Any rate of growth, if established for some time, may be difficult to alter, and may indeed

appear as supply constrained. The depression of the 1930s may well be a case in point, as illustrated by the following quotation by an economist hardly partial to simple Keynesian messages: "Experience showed that as soon as deflation was stopped, the huge structural distortions that had been diagnosed by theorists during the depression shriveled as quickly as they had surfaced earlier. Monetary contraction ... proved to be a much more important cause of high unemployment than structural distortions" [Haberler, 1986, pp.69-70].

V. ISSUES FOR THE FUTURE

The issue of what determines longer-term accelerations and decelerations in the economic growth of the industrialized countries is controversial. This paper has argued that crucial for high growth phases are optimistic business expectations, seen as a major driving force of capital accumulation. Both theory and past evidence suggest that such expectations can be encouraged or sustained either by endogenous market forces, or by what have been called exogenous "system shocks". Any appraisal of future growth prospects should thus try to assess whether new, favourable, shocks are likely to occur, or whether the mere absence of negative shocks, combined with the restoration of a more market-oriented economic system, could generate a spontaneous upswing.

The historical experience suggests that a number of conditions are probably necessary for an autonomous, investment-led, growth acceleration to take place: the reappearance of a "reserve army of the unemployed", together with low and stable inflation and inflationary expectations; the accumulation of a backlog of unexploited innovations made possible by a continuous progress in knowledge; the scrapping of significant segments of the capital stock, generating potential demand for new investment; the elimination of institutional and other rigidities to the free play of market forces; the emergence of Schumpeterian entrepreneurs ready to venture into risky projects by seizing the opportunities provided by deregulated markets, on-going technical progress, scarce capital and abundant labour.

The simultaneous fulfillment of all these conditions is clearly no easy matter. Thus, it may come as no surprise to find that the last phase

of rapid growth that may have fitted this so-called spontaneous model goes back to the middle of the 19th century. It is possible, however, that circumstances in the late 1980s and early 1990s may conform to these conditions to a much greater extent than for a long time. Unemployment is likely to remain high in the foreseeable future and, barring supply shocks or irresponsible policies, inflation should stay low; technology is clearly advancing; investment will have been relatively depressed for nearly two decades, and the present policies tending to increase flexibility should bear some fruit. More problematic, however, may be the appearance of Schumpeterian entrepreneurs. Indeed, Schumpeter himself (and Galbraith with him), would have argued that in today's world of oligopolies and conglomerates they probably no longer exist. Yet, their re-emergence cannot be excluded. As argued in Section II above, technological innovations on the one hand (in particular the micro chip), more diversified demand patterns on the other, are combining in making possible a revival of smaller-scale production. Small need not be beautiful, but it could be both feasible and inexpensive. In the process, it could also generate faster growth.

Optimism is tempered, however, by the realization that many of these conditions have been present and have been strengthened for some time, yet growth in the industrialized countries has, if anything, decelerated further. The only major exception to this general rule may be the experience of the United Kingdom which has been at the vanguard in the movement to reverse many of the institutional features of the earlier era and which, in the last few years, has witnessed both steady and rapid growth. Britain's favourable performance, however, reflects also recovery from a very deep recession, real exchange rate depreciation, oil self-

sufficiency and a clear fiscal boost, factors which may well have been more important than the effects of Thatcherism.

Hope for an eventual acceleration in the OECD area as a whole, may thus have to be put in the alternative view of some external disturbance recreating more buoyant expectations. Arguably, the "Thatcher revolution" is precisely a shock of this kind, but, quite apart from the unproven verdict, it is not one that has been administered in many other countries. A favourable external disturbance that affected most of the OECD area was the reverse oil shock of 1986, which many hoped would usher in faster growth. Yet, despite a strong boost to profits and a marked downward effect on prices, confidence did not surge, in part, no doubt, because of continuing tight policies.

One possible favourable shock could arise in the future from political and economic developments in Eastern Europe. A combination of multilateral disarmament and sweeping economic reforms, initiated by a much more dynamic Russian leadership, could generate a new wave of optimism in the West, and particularly in Europe, in the expectation of a major surge in demand from the East. It would be ironic, by the way, if, following the "rescue" of capitalism by socialism in the late 1940s, when Stalin's choice of the cold war prompted the adoption of the Marshall Plan, capitalism was again helped at a time of difficulty by the socialist countries. Yet, such an outcome does not seem very likely. Disarmament should have beneficial effects on the US budget deficit, but its wider economic implications, unfortunately, need not all be favourable to growth. As for new markets, earlier experience justifies a certain scepticism. The gains from colonial expansion in the late 19th century have often been exaggerated. Closer to the present, the growth in demand

from the centrally planned economies in the 1960s and 1970s quickly found its limits as these countries developed large trade deficits.

More realistic may be reliance on changes in government policies which on past occasions (e.g. the late 19th century or the period after World War II), may well have been instrumental in generating longer-run upswings. There are difficulties in this area too, however. One possible scenario could envisage an inflationary solution to the financial disequilibria of the 1980s, ushering in a new policy cycle of relatively easy money in the 1990s. It is doubtful, however, whether such a strategy could be successful in a world whose memory of high inflation was still very recent.

The alternative of adopting Keynesian-inspired, pump-priming policies may well encounter speed limits. As argued in Section IV above, either expansion is too slow and unable to overcome the sluggishness of private sector expectations, or it is too rapid and generates mainly inflation. Boldness rather than caution may be a preferable policy if it is held, plausibly, that supply conditions tend to adapt to demand changes with surprising flexibility, but boldness may encounter a subtler and more pervasive obstacle than a rigid supply potential - scepticism about the efficacy of policies themselves.

While the 1950s and 1960s were almost certainly an era in which companies and households implicitly accepted a Keynesian model of the economy, perceptions have changed very fundamentally in the 1980s. Rightly or wrongly, economic agents are increasingly convinced of the near impotence of government policies in affecting real variables, be this because of the belief in models of market clearing and rational expectations or because of the realization that, in an integrated world,

independent policy-making is no longer feasible. This may well condemn any reflationary attempt from the start since, if it is surrounded by scepticism, it will be unable, almost by definition, to galvanize entrepreneurial expectations (the French experience of the early 1980s may be a case in point).

One possible solution to this difficulty could come from a "system shock" that altered this feeling and re-established macroeconomic policy as an effective tool of government action. In so far as present and foreseeable scepticism arises from the correct perception that our economies have become very interdependent, the solution could be the transfer of responsibility for aggregate demand policies from the national to the supranational sphere via a much greater degree of international policy coordination. This would be insufficient to allay the fears of those who start with the assumption that any government macroeconomic policy must be impotent, but such beliefs, if they are held at all outside academia, are more prevalent in financial than in "real" markets.

It is true that even international coordination of policies may not be a panacea. Indeed, pioneering work on its possible impact has suggested that its effects may be relatively small [Oudiz and Sachs, 1984]. Such work, however, almost certainly underestimates the potential benefits of cooperation if only because the multipliers which it uses (and which are obtained from existing econometric models) might not be stable if international policy cooperation were to be adopted. In other words, the move towards coordinated policies may be akin to one of those very few regime changes that justify the "Lucas critique" of econometric model building [Sims, 1982]. Just as the adoption of demand management at the national level may have favourably altered the response of the private

sector to government policies in the 1950s and 1960s, a shift to more cooperative international demand management policies may have a similar effect in future.

A more coordinated approach to policy would presumably also tackle the issue of the international monetary system. The last two eras of relatively rapid growth (at the turn of the last century and in the 1950s and 1960s), were both periods in which exchange rates were fixed, thanks in large measure to the presence of a hegemonic power. Conversely, both the interwar years and the more recent period, saw the appearance of several key currencies and moves to floating regimes. Arguably, stability of exchange rates strongly diminishes business uncertainty and thus contributes to a favourable performance. While cooperation would be unable to ensure the return of a hegemonic power, it could, at least, attempt to instill much greater stickiness in the process of exchange rate determination.

The policy recommendations that stem from the preceding are relatively straightforward. If hope is to be placed in a spontaneous recovery, then the present emphasis on the removal of rigidities and the restoration of flexibility is clearly to be welcomed. The historical evidence suggests that spontaneous upswings have not been very frequent, but it does not rule out their possibility. To maximize their chance of occurring, it would seem that policies designed to encourage the formation and growth of small firms are highly desirable, as are policies that do not reduce the level of aggregate demand. If, alternatively, it is felt that a pure market response is too slow and uncertain a mechanism for faster growth, then the policy recommendation is for an increase, and,

ideally, a sudden and sharp increase, in the degree of policy coordination at the international level.

The latter, unfortunately, does not seem very likely, at least in present circumstances. If anything, the world appears to be moving in the direction of a fragmentation into several major trading and currency blocks, and this movement may be reinforced by the financial imbalances and the slow growth that can be expected to prevail over the short to medium run. As for the policies designed to remove rigidities, these have so far taken more the form of indiscriminate deflation than of structural reform, hardly a path likely to encourage entrepreneurial expectations. Given the continuing emphasis placed in so many countries on the pre-Keynesian objective of a balanced budget, this bias seems unlikely to change in the foreseeable future. On either count, the prospects for longer-run growth look hardly buoyant.

Table 1. Weight of various areas in world GDP and imports^a

	Actual			Hypothetical	
	1965 weights ^b (%)	1965-1985 growth (%)	1985 weights (%)	1985-2000 growth (%)	2000 weights ^b (%)
GDP					
Industrialized countries	84.0	3.3	78.1	2.0	66.7
Developing countries	16.0	5.3	21.9	6.0	33.3
Upper middle-income ^c	7.9	5.4	11.0	..	..
Lower middle-income	3.8	5.1	5.0	..	..
Low-income	4.2	5.4	5.9	..	..
Memorandum items:					
NICS ^d	2.6	6.8	4.7	8.0	9.5
Asia-Pacific region ^e	12.8	6.0	19.9	5.0	26.3
(including North America) ^f	(18.5)	(5.4)	(25.8)	..	..
Imports					
Industrialized countries	68.0	6.0	71.6	3.0	62.1
Developing countries	32.0	5.1	28.4	6.0	37.9
Upper middle-income ^c	(17.4)	5.8	17.7	..	..
Lower middle-income	(8.0)	4.1	5.9	..	..
Low-income	(7.2)	3.6	4.8	..	..
Memorandum items:					
NICS ^d	4.5	7.9	6.7	10.0	15.6
Asia-Pacific region ^e	13.6	7.6	19.3	7.0	29.6

a. Excluding World Bank non-member countries.

b. At 1985 prices.

c. Including high-income oil exporters.

d. Brazil, Hong-Kong, Mexico, Singapore and South Korea.

e. ASEAN countries, Australia, China, Hong-Kong, Japan, New Zealand and South Korea.

f. Same countries as above, plus tentative estimates for the GNP of the US Pacific Region and of British Columbia, based on personal income data for these areas.

Sources: World Bank, 1987, and author's estimates.

Table 2. Scenarios to 1992

	"Reference" scenario ^a	Scenarios No.1 ^b	No.2 ^c
<u>Average annual percentage changes</u>			
GNP - OECD area	2.5	2.1	2.1
" - United States	2.4	1.6	2.1
" - Japan	2.8	2.5	2.4
" - Germany	2.4	2.2	2.0
Employment - OECD area	0.8	0.6	0.7
Consumption deflator - OECD area	2.9	2.7	2.9
<u>Levels in 1992</u>			
Current account (\$ bn.) - United States	-168	-118	-108
" " " - Japan	102	88	92
" " " - Germany	24	16	14
General govt. net lending (%GNP) - U.S.	-0.6	1.1	1.1
Interest rates (short-term) - U.S.	3.2	3.2	4.1

a. Extrapolation of present policy "intentions"; exchange rates stable at November 1986 levels.

b. Reductions in US government expenditure and increases in US income tax of \$ 70 bn. and \$ 50 bn. respectively by 1992.

c. Same US fiscal policy as in Scenario 1 and further dollar depreciation by 15 per cent in 1988.

Source: Model-based simulations done on the responsibility of the World Bank.

Table 3. Growth of total output
average annual percentage changes

	Total OECD	Western Europe	North America
1870-1913	2.7	1.9	4.1
1870-1892	2.4	1.6	4.6
1892-1913	2.8	2.3	3.7
1913-1952	2.3	1.4	3.1
1913-1922	0.3	-0.1	1.8
1922-1937	2.3	2.5	2.1
1937-1946	3.1	-2.1	5.0
1946-1952	4.5	6.7	3.9
1952-1985	3.3	3.7	3.3
1952-1973	4.6	4.8	3.7
1973-1985	2.5	1.9	2.6

Sources: Maddison, 1982; OECD, 1987a.

Table 4. Growth of total output in selected countries, 1830-1913

average annual percentage changes

	1830s and 1840s	1850s and 1860s	1870s and 1880s	1890s to 1913
France	1.6	1.9	0.9	1.9
Germany	1.8	2.6	2.0	3.2
Italy	..	1.0	0.5	2.8
United Kingdom	2.0	2.4	1.9	1.7
United States	..	4.2	4.6	3.6

Note: Exact periods for each country are: France, 1832-52, 1852-69, 1869-96, 1896-1913; Germany, 1831-57, 1857-74, 1874-93, 1893-1913; Italy, 1861-75, 1875-96, 1896-1913; United Kingdom, 1831-51, 1851-71, 1871-96, 1896-1913; United States, 1850-73, 1873-92, 1892-1913.

Source: Maddison, 1982.

Table 5. The technology gap
ratio of GDP per man-hour to United States level

	Europe	Japan
1900	68	..
1913	61	22
1929	56	26
1938	61	33
1950	43	14
1979	78	53

Source: Maddison, 1982.

Table 6. Real wages, productivity and output in the Great Depression
average annual percentage changes

	Real wages ^a		Productivity ^a		Output ^b	
	1929-32	1932-37	1929-32	1932-37	1929-32	1932-37
Germany	8.9	-4.9	-2.9	3.6	-5.6	8.5
Japan ^c	5.5	-5.0	1.8	3.2	2.0	7.8
Sweden	1.2	0.4	-2.6	4.9	-1.4	4.4
United Kingdom	3.5	-1.2	-1.4	1.5	-1.7	4.3
United States	-3.6	4.5	-7.6	4.0	-10.4	6.5

a. In the corporate sector.

b. Total GDP.

c. Manufacturing sector only.

Sources: Ohkawa and Shinohara, 1979; Donnell, 1981; Maddison, 1982.

Table 7. Selected macroeconomic indicators, 1977-82
Germany and Japan

percentage changes from previous year

	1977	1978	1979	1980	1981	1982
<u>Germany</u>						
GDP growth	3.0	2.9	4.2	1.4	0.2	-0.6
Budget balance ^a	-2.4	-2.4	-2.6	-2.9	-3.7	-3.3
Consumer prices	3.7	2.7	4.1	5.4	6.3	5.3
GDP deflator	3.6	4.2	4.0	4.5	4.2	4.8
Effective exchange rate	7.9	6.3	6.1	1.0	-7.3	4.1
Money supply (M ₁)	8.1	13.5	7.2	2.4	0.9	3.2
<u>Japan</u>						
GDP growth	5.3	5.1	5.2	4.4	3.9	2.8
Budget balance ^a	-3.9	-5.9	-4.3	-3.9	-4.4	-3.5
Consumer prices	8.0	3.8	3.6	8.0	4.9	2.6
GDP deflator	5.7	4.6	2.6	2.8	2.7	1.7
Effective exchange rate	10.6	23.1	-7.2	-3.8	13.1	-5.7
Money supply(M ₁)	7.0	10.8	9.9	0.8	3.7	7.1

a. In percentage of current price GDP.

Sources: OECD, Historical Statistics, 1960-1984; IMF, International Financial Statistics - Yearbook.

Table 8. Capacity utilization rates in manufacturing, 1973-87

percentages

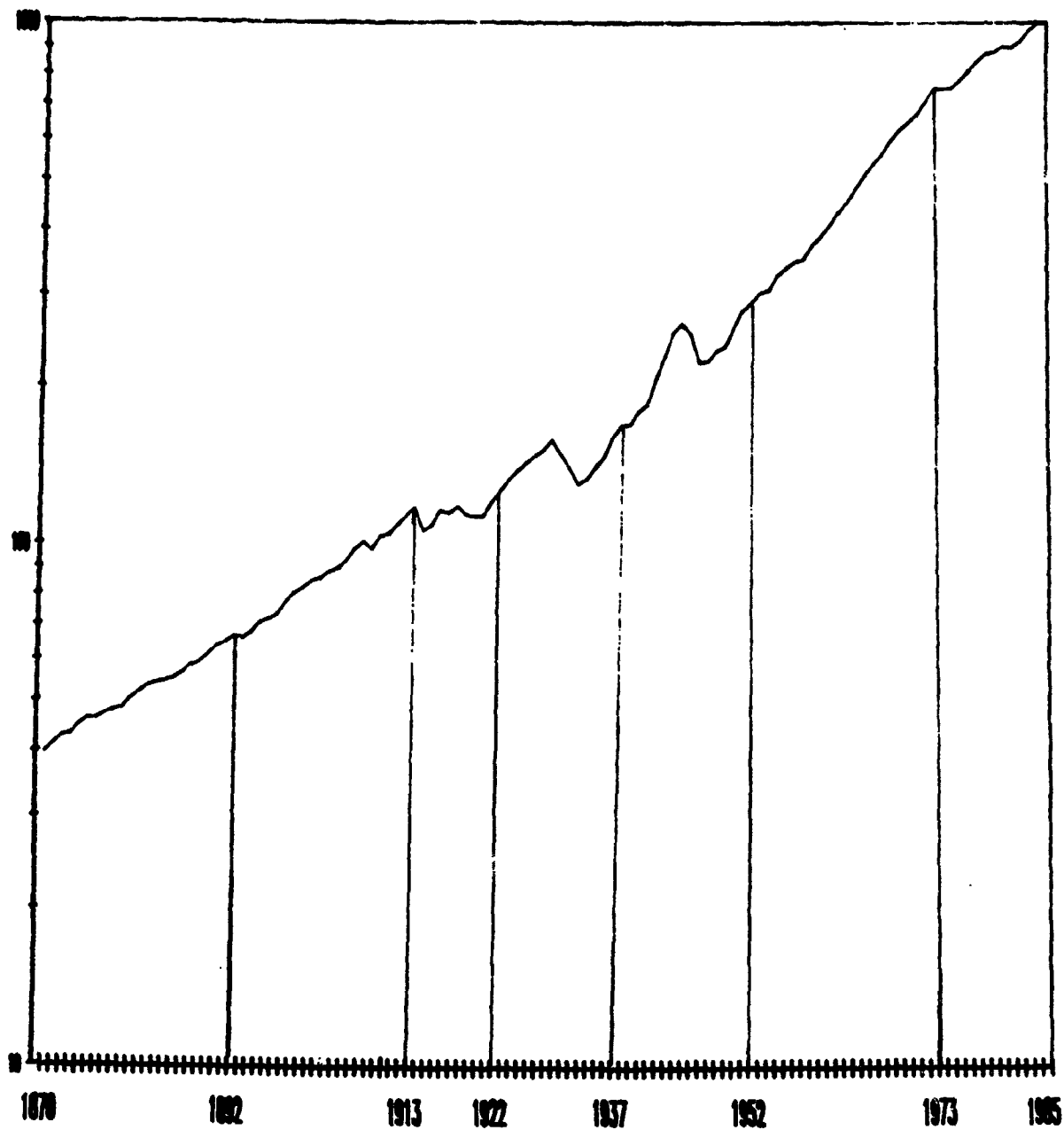
	1973 peak	1979-80 peak	1982-83 trough	early 1987
United States	87.7	87.2	69.0	80.1
Japan ^a	100.0	96.6	85.6	88.2
France	87.8	85.3	77.0	83.1
Germany	88.1	86.0	74.3	84.0
Italy	78.8	77.3	69.1	76.9
United Kingdom	90.6	87.6	73.0	87.4
Total ^b	89.6	88.0	73.4	82.5

a. Indices, 1973=100.

b. Using 1982 GDP weights.

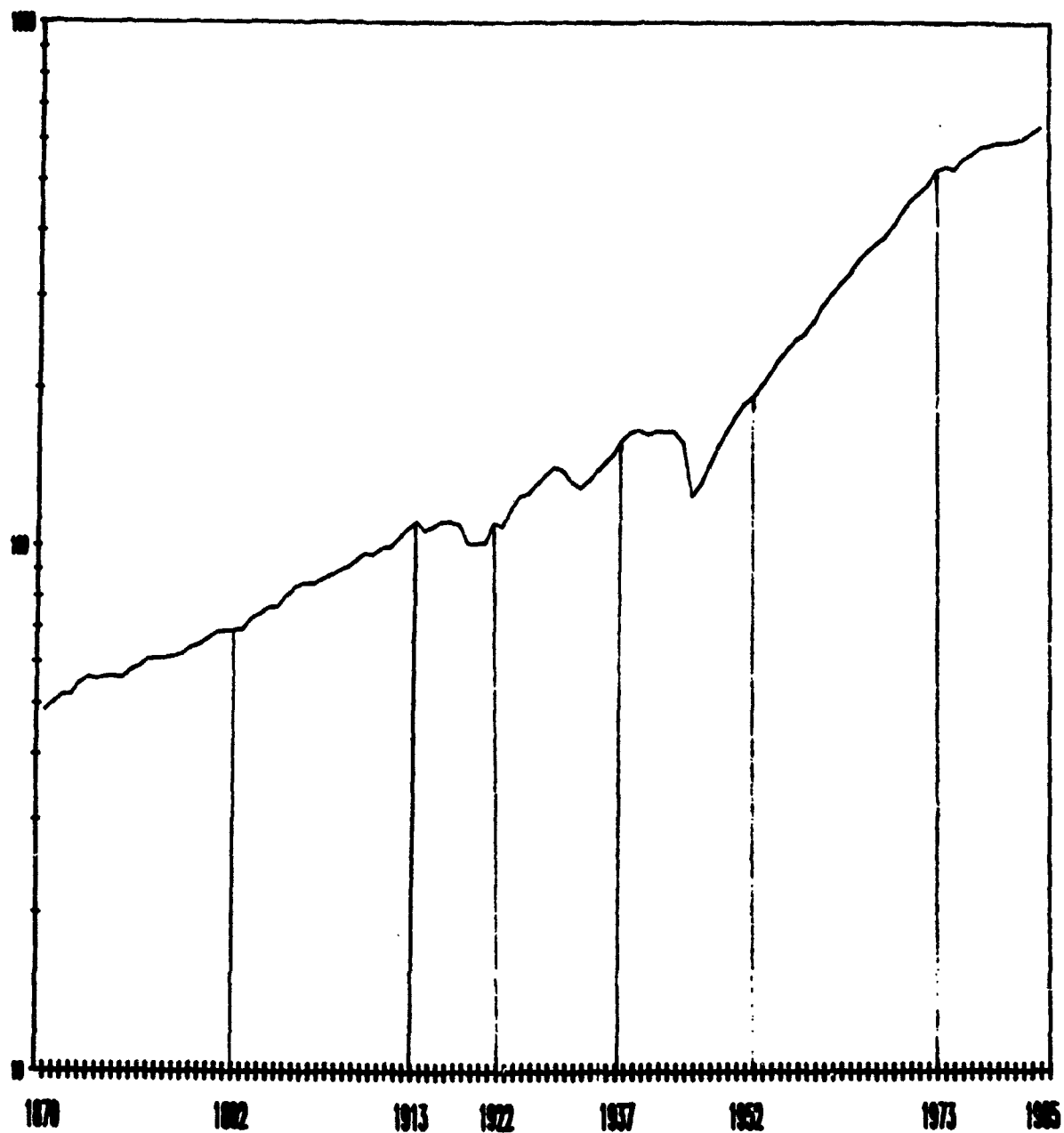
Sources: EEC, European Economy, Supplement B; OECD, Monthly Economic Indicators; Statistics Bureau, Management and Co-ordination Agency, Monthly Statistics of Japan; UNCTAD, Trade and Development Report, 1987.

Fig.1 Level of OECD GDP, 1870-1985
1913=100



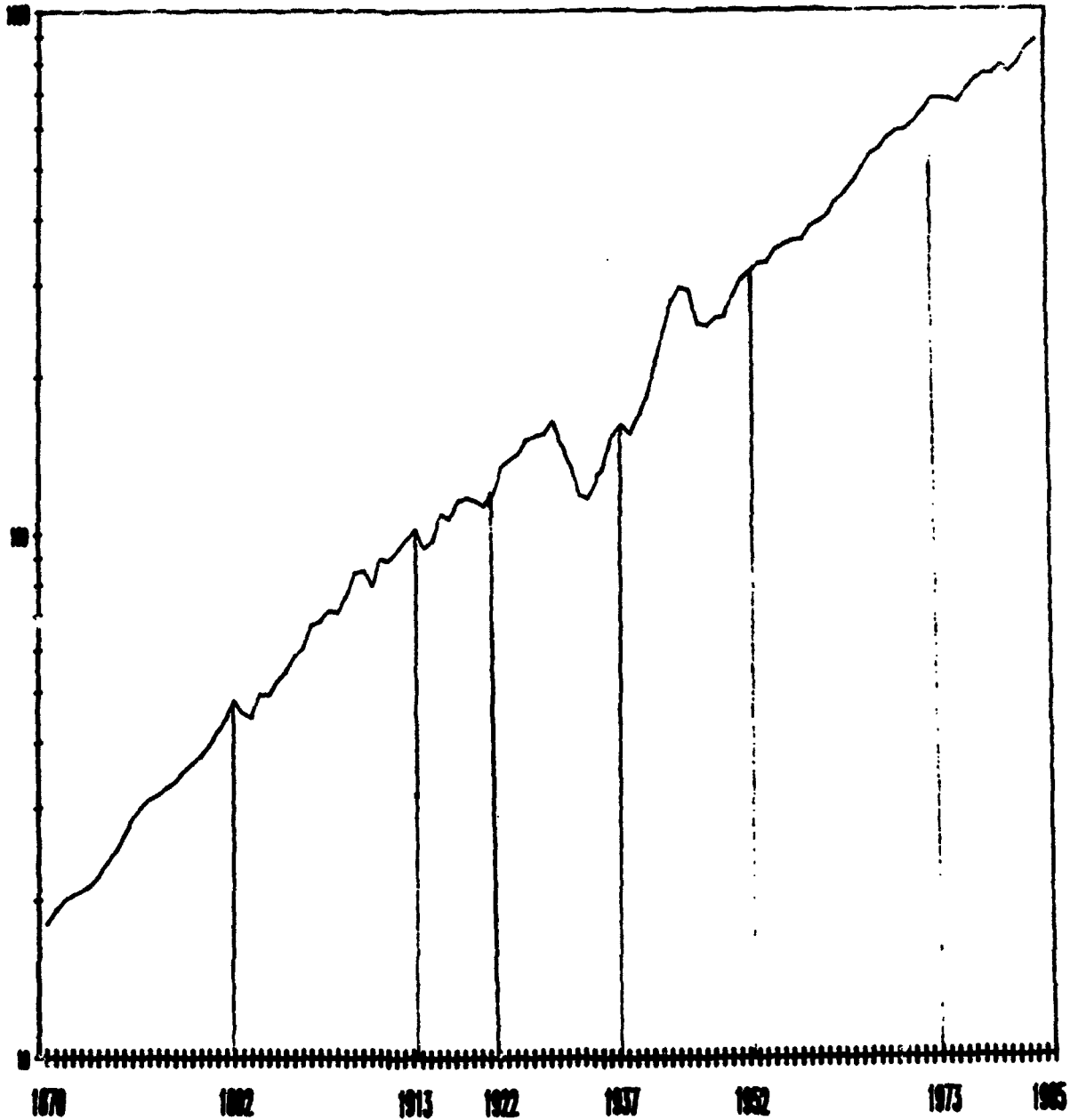
Sources: Maddison, 1982; OECD, 1987a

Fig.2 Level of European GDP, 1870-1985
1913=100



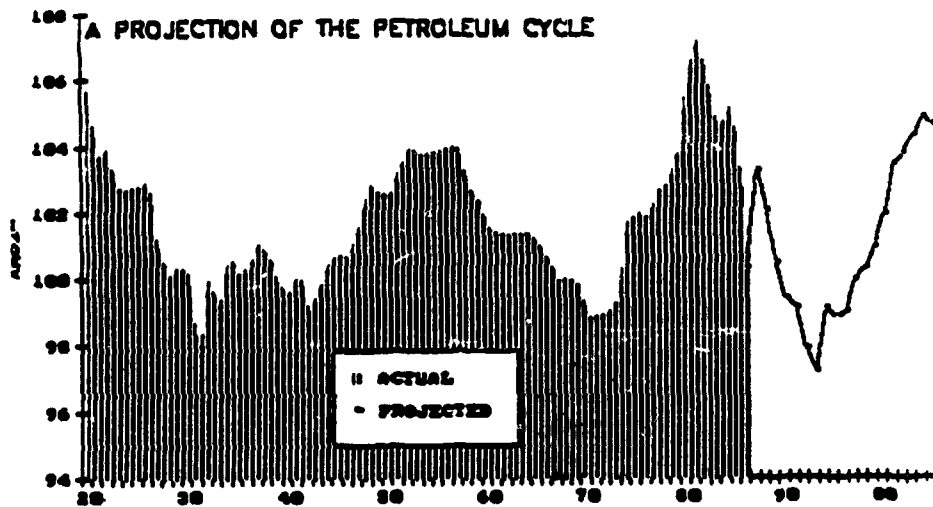
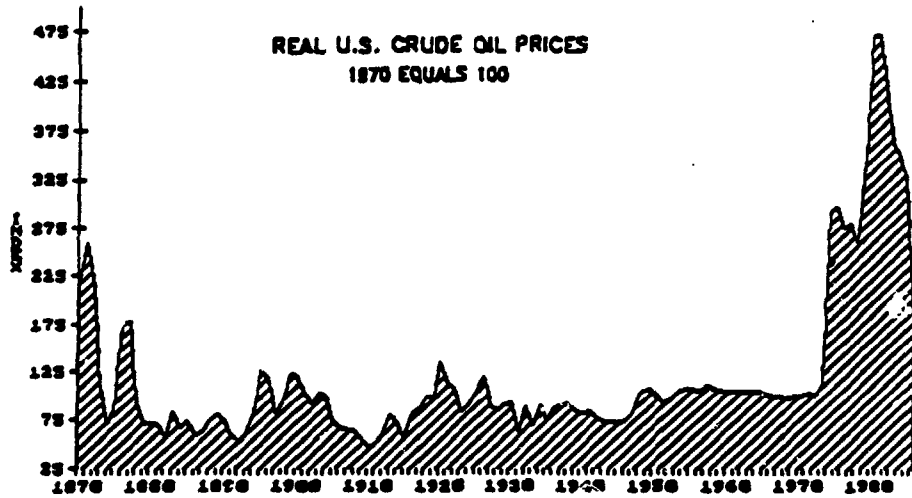
Source: Maddison, 1982; OECD, 1987 a

Fig.3 Level of North-Am. GDP, 1870-1985
1913=100



Source: Maddison, 1982; OECD, 1987.

Fig.4 Oil Prices and the Petroleum Cycle



Source: Petroleum Finance Company, 1987

REFERENCES

- Abramovitz, M. (1979), "Rapid Growth Potential and its Realisation: The Experience of the Capitalist Economies in the Postwar Period", in E. Malinvaud (ed.), Economic Growth and Resources, Vol.1, Macmillan Press, London 1979.
- Abramovitz, M. (1986), "Catching Up, Forging Ahead, and Falling Behind", Journal of Economic History, Vol.XLVI, No.2, June.
- Abramovitz, M. and P.A.David (1973), "Reinterpreting Economic Growth: Parables and Realities", American Economic Review, Vol.63, No.2, May.
- Armstrong, P., A.Glyn and J.Harrison (1984), Capitalism since World War II, Fontana Paperbacks, London.
- Arrow, K.J. (1986), "Incentives and Growth: An Appraisal", in B.Balassa and H. Giersch (eds.), Economic Incentives, Macmillan Press, London.
- Baily, M.N. (1978), "Stabilization Policy and Private Economic Behavior", Brookings Papers on Economic Activity, No.1.
- Bairoch, P. (1976), Commerce exterieur et developpement economique de l'Europe au XIXe siecle, Mouton, Paris.
- Baumol, W.J. (1986), "Productivity Growth, Convergence and Welfare: What the Long-run Data Show", American Economic Review, Vol.76, No.5, December
- Bean, C.R., P.R.G.Layard and S.J.Nickell (1986), "The Rise in Unemployment: A Multi-Country Study", Economica, Vol.53, No.210(S), Supplement.
- Beckerman, W. (1962), "Projecting Europe's Growth", Economic Journal, Vol. LXXII, No.288, December.
- Blanchard, O.J. et al. (1985), "Employment and Growth in Europe: A Two-Handed Approach", CEPS Papers, No.21.
- Blanchard, O.J. and L.H.Summers (1986), "Hysteresis and the European Unemployment Problem", NBER Working Paper Series, No.1950.
- Boltho, A. (1982), "Growth", in A.Boltho (ed.), The European Economy: Growth and Crisis, Oxford University Press, Oxford.
- Bombach, G. (1985), Post-war Economic Growth Revisited, North-Holland, Amsterdam.
- Bonnell, S. (1981), "Real Wages and Employment in the Great Depression", Economic Record, Vol.57, No.158, September.

- Bruno, M. (1986), "Aggregate Supply and Demand Factors in OECD Unemployment: An Update", Economica, Vol.53, No.210(S), Supplement.
- Carre, J.-J., P.Dubois and E.Malinvaud (1972), La croissance française, Le Seuil, Paris.
- Chan-Lee, J.H. and H.Kato (1984), "A Comparison of Simulation Properties of National Econometric Models", OECD Economic Studies, No.2, Spring.
- Chesnais, F. (1982), "Schumpeterian Recovery and the Schumpeterian Perspective - Some Unsettled Issues and Alternative Interpretations", in H. Giersch (ed.), Emerging Technologies, J.C.B.Mohr, Tübingen.
- Commission of the European Communities (1986), European Economy, Supplement B, No.4, April.
- CBO (1987), The Economic and Budget Outlook: An Update, Congress of the United States, Washington, D.C.
- Cornwall, J. (1977), Modern Capitalism, St.Martin's Press, New York, N.Y.
- Davis, L.E. and R.E.Gallman (1978), "Capital Formation in the United States during the Nineteenth Century", in P.Mathias and M.M.Postan (eds.) (1978).
- Denison, E.F. (1967), Why Growth Rates Differ, Brookings Institution, Washington, D.C.
- Denison, E.F. and W.K.Chung (1976), "Economic Growth and its Sources", in H. Patrick and H.Rosovsky (eds.), Asia's New Giant, Brookings Institution, Washington, D.C.
- Engerman, S.L. (1971), "The Economic Impact of the Civil War", in R.W.Fogel and S.L.Engerman (eds.), The Reinterpretation of American Economic History, Harper & Row, New York, N.Y.
- Enos, J.L. (1962), "Invention and Innovation in the Petroleum Refining Industry", in NBER, The Rate and Direction of Inventive Activity, Princeton University Press, Princeton, N.J.
- Flanagan, R.J. (1987), "Labor Market Behavior and European Economic Growth", in R.Z.Lawrence and C.L.Schultze (eds.), Barriers to European Growth, Brookings Institution, Washington, D.C.
- Freeman, C. (ed.) (1983), Long Waves in the World Economy, Butterworth, London
- Fremdling, R. (1986), "Comments" in B.Balassa and H.Giersch (eds.), Economic Incentives, Macmillan Press, London.
- Fuß, G. (1965), Notes on Italian Economic Growth, 1861-1964, Giuffrè, Milan.

- Giersch, H. (1979), "Aspects of Growth, Structural Change, and Employment - A Schumpeterian Perspective", Weltwirtschaftliches Archiv, Vol.CXV, No.4.
- Glismann, H.H., H.Rodemer and F.Wolter (1978), "Zur Natur der Wachstumschwache in der Bundesrepublik Deutschland", Kiel Discussion Papers, No.55.
- Gould, J.D. (1972), Economic Growth in History, Methuen & Co., London.
- Haberler, G. (1986), "The Slowdown of the World Economy and the Problem of Stagflation", in D.Lal and M.Wolf (eds.), Stagflation, Savings, and the State, Oxford University Press, New York, N.Y.
- Hamermesh, D.S. (1986), "The Demand for Labor in the Long Run", in O. Ashenfelter and R.Layard (eds.), Handbook of Labor Economics. Vol.I, North-Holland, Amsterdam.
- Henderson, W.O. (1975), The Rise of German Industrial Power, Temple Smith, London.
- Hoselitz, B.F. (1955), "Patterns of Economic Growth", Canadian Journal of Economics and Political Science, Vol..XXI, No.4, November.
- Kaldor, N. (1966), Causes of the Slow Rate of Economic Growth of the United Kingdom, Cambridge University Press, Cambridge.
- Kalecki, M. (1971), Selected Essays on the Dynamics of the Capitalist Economy, Cambridge University Press, Cambridge.
- Kindleberger, C.P. (1967), Europe's Postwar Growth, Harvard University Press, Cambridge, Mass.
- Kindleberger, C.P. (1978), "The Aging Economy", Weltwirtschaftliches Archiv, Vol.CXIV, No.3.
- Kuznets, S. (1966), Modern Economic Growth, Yale University Press, New Haven, Conn.
- Layard, R.G. (1986), How to Beat Unemployment, Oxford University Press, Oxford
- Lewis, W.A. (1978), Growth and Fluctuations, 1870-1913, George Allen & Unwin, London.
- Lewis, W.A. (1982), "The Growth of Mature Economies", in C.P.Kindleberger and G.di Tella (eds.), Economics in the Long View, Vol.1, New York University Press, New York, N.Y.
- Lundberg, E. (1981), "The Contributions of the Economics of Growth to Economic Policies", in H.Giersch (ed.), Towards an Explanation of Economic Growth, J.C.B.Mohr. Tübingen.

- McCloskey, D.N. (1980), "Magnanimous Albion: Free Trade and British National Income, 1841-1881", Explorations in Economic History, Vol.17.
- McCracken, P. et al. (1977), Towards Full Employment and Price Stability, OECD, Paris.
- Maddison, A. (1976), "Economic Policy and Performance in Europe, 1913-1970", in C.M.Cipolla (ed.), The Fontana Economic History of Europe - The Twentieth Century, Pt.2, Collins/Fontana, Glasgow.
- Maddison, A. (1982), Phases of Capitalist Development, Oxford University Press, Oxford.
- Maddison, A. (1987), "Growth and Slowdown in Advanced Capitalist Economies: Techniques of Quantitative Assessment", Journal of Economic Literature, Vol.XXV, No.2, June.
- Mandel, E. (1980), Long Waves of Capitalist Development, Cambridge University Press, Cambridge.
- Marris, R. (1982), "How Much of the Slowdown was Catch-up?", in R.C.O.Matthews (ed.), Slower Growth in the Western World, Heinemann, London.
- Marris, S. (1985), Deficits and the Dollar: The World Economy at Risk, Institute for International Economics, Washington, D.C.
- Mathias, P. and M.M.Postan (eds.) (1978), The Cambridge Economic History of Europe - The Industrial Economies, Vol.VII, Cambridge University Press, Cambridge.
- Matthews, R.C.O. (1968), "Why has Britain had Full Employment since the War?" Economic Journal, Vol.LXXVIII, No.311, September.
- Matthews, R.C.O., C.H.Feinstein and J.C.Odling-Smee (1982), British Economic Growth, Stanford University Press, Stanford, Cal.
- Milward, A.S. and S.B.Saul (1977), The Development of the Economies of Continental Europe, 1850-1914, Harvard University Press, Cambridge, Mass.
- Minami, R. (1986), The Economic Development of Japan, Macmillan Press, London.
- Modigliani, F. et al. (1986), "Reducing Unemployment in Europe: The Role of Capital Formation", CEE Economic Papers, No.47.
- Nakamura, T. (1983), Economic Growth in Prewar Japan, Yale University Press, New Haven, Conn.
- Nelson, R.R. (1981), "Competition, Innovation, Productivity Growth, and Public Policy", in H.Giersch (ed.), Towards an Explanation of Economic Growth, J.C.B.Mohr, Tübingen.

- Nordhaus, W.D. and J.Tobin (1972), "Is Growth Obsolete?", in NBER, Economic Research: Retrospect and Prospect - Economic Growth, Fiftieth Anniversary Colloquium V, Columbia University Press, New York, N.Y.
- North, D.C. (1974), Growth and Welfare in the American Past, (2nd ed.), Prentice-Hall, Englewood Cliffs, N.J.
- Nurkse, R. (1959), Patterns of Trade and Development, Almqvist and Wiksell, Stockholm.
- O'Brien, P. (1982), "European Economic Development: The Contribution of the Periphery", Economic History Review, Vol.XXXV, No.1, February.
- Ohkawa, K. and H.Rosovsky (1973), Japanese Economic Growth, Stanford University Press, Stanford, Cal.
- Ohkawa, K. and M.Shinohara (1979), Patterns of Japanese Economic Development, Yale University Press, New Haven, Conn.
- OECD (1987a), Economic Outlook, No.41, June.
- OECD (1987b), "The Medium-Term Economic Strategy Revisited", CPE/WP1/A(87)2.
- Olson, M. (1982), The Rise and Decline of Nations, Yale University Press, New Haven, Conn.
- Oudiz, G. and J.Sachs (1984), "Macroeconomic Policy Coordination among the Industrial Economies", Brookings Papers on Economic Activity, No.1.
- Penati, A. and M.Dooley (1984), "Current Account Imbalances and Capital Formation in Industrial Countries, 1949-81", IMF Staff Papers, Vol.31, No. 1, March,
- Petroleum Finance Company (1987), "World Petroleum Markets", Report prepared for the World Bank Energy Department, mimeo.
- Reichlin, L. (1987), "The Causes of European Unemployment: Relative Prices or Aggregate Demand ?", Report prepared for the World Bank, mimeo.
- Rostow, W.W. (1980), Why the Poor Get Richer and the Rich Slow Down, University of Texas Press, Austin, Tex.
- Sachs, J.D. (1979), "Wages, Profits and Macroeconomic Adjustment: A Comparative Study", Brookings Papers on Economic Activity, No.2.
- Sachs, J.D. (1983), "Real Wages and Unemployment in the OECD Countries", Brookings Papers on Economic Activity, No.1.
- Sachs, J. and C.Wyplosz (1986), "The Economic Consequences of President Mitterand", Economic Policy, Vol.1, No.2, April.

- Salter, W.E.G. (1966), Productivity and Technical Change, Cambridge University Press, Cambridge.
- Schmookler, J. (1966), Invention and Economic Growth, Harvard University Press, Cambridge, Mass.
- Schumpeter, J.A. (1952), Capitalism, Socialism and Democracy, (4th ed.), Allen & Unwin, London.
- Scott, M.FG. (1976), "Investment and Growth", Oxford Economic Papers, Vol.28, No.3, November.
- Sims, C.A. (1982), "Policy Analysis with Econometric Models", Brookings Papers on Economic Activity, No.1.
- Solow, R.M. (1986), "Unemployment: Getting the Questions Right", Economica, Vol.53, No.210(S), Supplement.
- Streissler, E. (1980), "Models of Investment-Dependent Economic Growth Revisited", in R.C.O. Matthews (ed.), Economic Growth and Resources, Vol.2, Macmillan Press, London.
- Supple, B. (1973), "The State and the Industrial Revolution, 1700-1914", in C.M. Cipolla (ed.), The Fontana Economic History of Europe - The Industrial Revolution, Collins/Fontana, Glasgow.
- Taussig, F.W. (1924), "Labor Costs in the United States Compared with Costs Elsewhere", Quarterly Journal of Economics, Vol. XXXIX, No.1, November.
- Van der Wee, H. (1986), Prosperity and Upheaval - The World Economy, 1945-1980 University of California Press, Berkeley, Cal.
- Van Duijn, J.J. (1983), The Long Wave in Economic Life, George Allen & Unwin, London.
- Williamson, J.G. (1974), "Watersheds and Turning Points: Conjectures on the Long-Term Impact of Civil War Financing", Journal of Economic History, Vol. XXXIV, No.3, September.
- World Bank (1979), World Development Report, Oxford University Press, New York
- World Bank (1983), World Development Report, Oxford University Press, New York
- World Bank (1987), World Development Report, Oxford University Press, New York

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